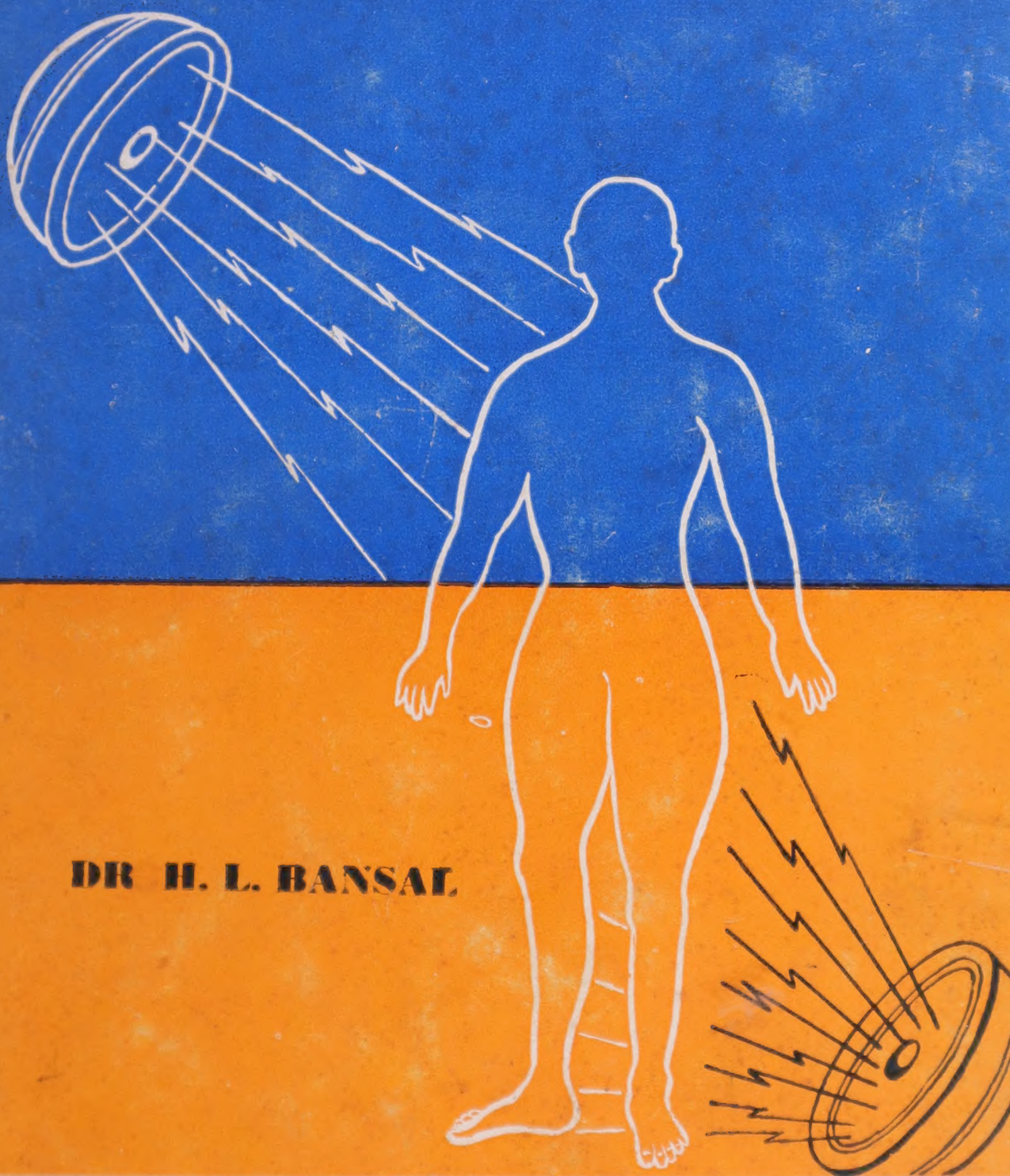


MAGNETO THERAPY



DR H. L. BANSAL

B. JAIN PUBLISHERS
New Delhi-110016

ABOUT THE BOOK

This is a novel book on a seemingly new subject—Magnetotherapy. This system of treatment is based on Magnetism—a natural force like electricity, but almost unknown as a branch of medical science.

This valuable book provides very useful information based on the researches and experiences of many physicists and magnetotherapists. It shows how magnetism affects the human metabolism, suggests methods of treatment of various diseases with magnets and indicates where and how to apply them in a hundred common diseases.

The book contains the details of scores of cases of different kinds of diseases successfully treated with magnets by several Magnetotherapists including the author. Every one who wants to learn this art, can easily learn it from this book.

This book establishes that Magnetotherapy is very useful in all diseases and disorders of functional nature and is worth-trying in all cases—especially chronic ones.

COMMUNITY HEALTH CELL

326 V Main, I Block Koramangala
Bangalore - 560 034

THIS BOOK MUST BE RETURNED BY
THE DATE LAST STAMPED

[illegible]



MAGNETOTHERAPY

MAGNETOTHERAPY

THE ART OF HEALING THROUGH MAGNETS

"If magnetism were true, medicine would be an absurdity"

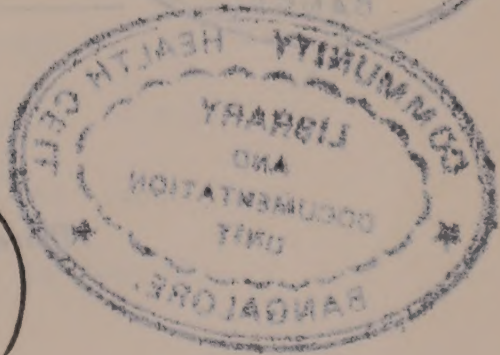
Dr F.V. Broussais of France.

Dr H. L. BANSAL

Magnetotherapist and Homoeopath, Member, H.M.A. of India,

Associate, R.S.H. (London),

Associate Member, International H.M.L. (Geneva).



B. JAIN PUBLISHERS

NEW DELHI—110016.

Published by :
B. Jain Publishers,
55/I, Arjun Nagar,
New Delhi-110016.

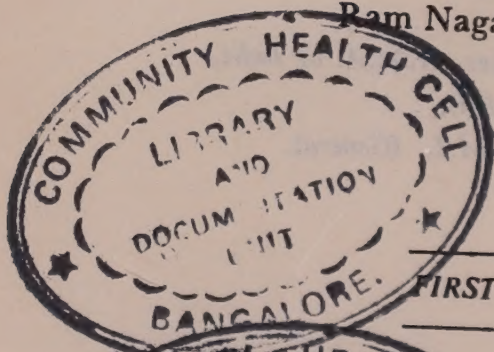
© Reserved by the Author.

02666

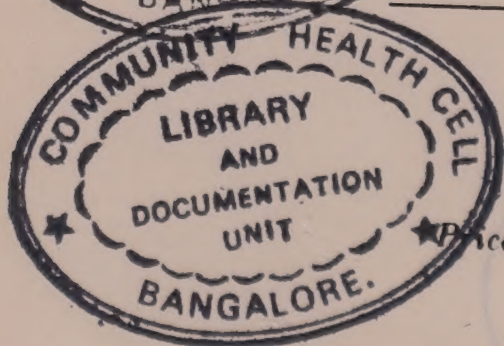
DR H24 N76

Sole Selling Agents :

Harjeet & Co.,
7, Rattan Lal Building,
Ram Nagar, New Delhi-110055.



FIRST EDITION 1976



Price : Rs. 9.50

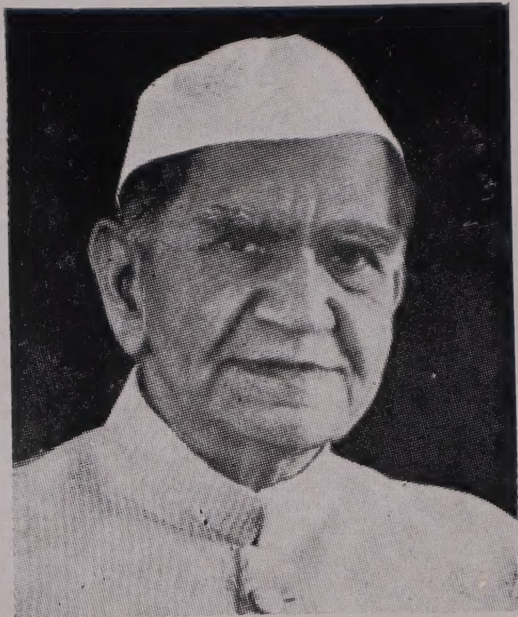
Printed at :

Jay Print Pack (P) Ltd., New Delhi 110015



राष्ट्रपति भवन नई दिल्ली-110004

RASHTRAPATI BHAVAN NEW DELHI-110004
INDIA



October 1, 1976.

I was glad to glance through Dr. H.L. Bansal's book on "Magnetotherapy" I hope it will receive the attention of the medical profession. I wish Dr. Bansal success in his humanitarian endeavours.

Handwritten signature

Dedicated to
Dr R. S. Thacker
my Teacher and Guide in Magnetotherapy

TO THE READER

The author would be grateful for any comments or suggestions on the contents, arrangement and pattern of this book.

A c k n o w l e d g m e n t

I solemnly acknowledge that I owe my indebtedness to Dr R. S. Thacker, the aged and experienced Magnetotherapist of Dareeba Kalan, Delhi, who attracted me to the field of his magnetic cures and has shared with me his vast knowledge and experiences in the rare technique of healing patients through magnets. He imparted his valuable knowledge of Magnetotherapy to me so that his knowledge and experiences of the past over 16 years might be extended and disseminated for the benefit of the mankind. He has successfully treated thousands of patients, free of charge, during this period.

My young homoeopath friend, Dr M.T. Santwani, M. Sc. (Ent.) Gold Medalist F.E.S.I., M.H.M., inspired me to take keen interest in magnetotherapy and his friendly insistence created a deep desire in me to study this art. The present book has also been written under his initiation. I whole-heartedly acknowledge my indebtedness to him for his valuable suggestions and personal assistance at each step."

My sincere thanks are also due to Dr A.K. Bhattacharya of Naihati, 24 Parganas, West Bengal, author of the book "Magnet and Magnetic Fields" and to Dr H.T. Bolakani, Consulting Engineer and Homoeopath, 10, Colony Road, Sion (West) Bombay, author of the book "Secrets of Magnet Therapy", for their kind permission to quote from their works. I have freely drawn from the above books for the sake of making this book self-contained, fully informative and highly useful to its readers.

I also record my thanks to the authors and publishers of other books, journals and articles mentioned in the 'list of references', given at the end, from which I have drawn substantially wherever I thought it fit to do so in the interest of the readers.

I also sincerely thank all my friends and relations who have extended their help to me, in one way or the other, to enable me to present this book to the profession and to the general public in its present form.

A special mention may be made of Shri Shreeram Taparia Managing Director, Permanent Magnets Ltd, Bombay. - he helped me in the procurement of various types of magnets for use in my Charitable Dispensary, through his Resident Representative Shri K.P. Aggarwal, B-1/67, Safdarjung Enclave, New Delhi—110016.

I also record my thanks to Dr G. P. Jain, Homoeopath, who, in spite of his being very busy in his preoccupations, managed to find time to go through the whole text of this book and gave very valuable suggestions in respect of its contents, printing, get up, etc., upto its final stage.

A word of thanks and appreciation to M/s B. Jain Publishers, Arjun Nagar, New Delhi, who have published this book and have given it wide publicity so that a large number of its readers may make use of the healing properties of magnets.

Sector—IV/41, R. K. Puram,
New Delhi—110022.

H. L. BANSAL

24th March, 1976

F o r e w o r d

Magnet has proved its indispensability in modern man's technological and industrial ventures. Is it also going to establish itself in the world of modern therapy as a major healing agent ? This treatise by Dr H. L. Bansal claims it is going to, and he sounds reasonable.

Years back, on a friend's persuasion, I took my weeping eczema, deteriorating in spite of best treatment available to me in my position, to Dr R.S. Thacker, the only magnetotherapist of Delhi known at that time, to whom this book has been appropriately dedicated. I was amazed to get rid of my trouble-some disease in a wonderfully short time. It was this case (quoted in this book on page 115) which inspired Dr Bansal to go in for Magnetotherapy in a missionary way. This book is the fruit of his devoted labours during the past several years.

In advanced foreign countries, considerable research has been done on the effects of magnetism on the biology of plants, animals and human beings and it has been indisputably established that a number of human ailments could be cured by applying magnets.

One Dr Maclean, M.D. of New York City, has successfully cured advanced Cancer cases and has made this startling observation : "Cancer can not exit in a strong magnetic field." The Russians are utilising magnets and magnetised water for curing ailments like mastitis, pains and swellings and even for sufferings caused by the dreaded kidney-stones. The Japanese have manufactured a number of magnetic devices like Magnetic Health Bands, Necklaces, Bed-pads, Belts and even Magnetic Chairs for treatment of various diseases.

In India it is seemingly a novel therapy, an amusing one too, but lately a number of physicians, especially Homoeopaths, have adopted it and obtained very encouraging results. Dr Bansal, basically a homoeopath, has made thorough studies of the results achieved in this field in India as well as in foreign countries. He has experimented extensively and has cured numerous patients of various ailments. And for the benefit of patients and other physicians, he has produced this book, perhaps first of its kind, written exclusively on the therapeutic use of magnetism providing interesting and useful information on all aspects of the subject, *viz.*, history, principles and practice of magnetotherapy, substantiating it by quoting a large number of treated cases. In addition, he has given guidelines for the treatment of hundred common diseases, which makes the book all the more useful.

This book has made me appreciate the remark of Dr F.V. Broussais of France, "If magnetism were true, medicine would be an absurdity." And magnetism has been proved to be true as every reader of this book will find for himself.

I congratulate the author for this very useful work done with humanitarian zeal, with the noble purpose of providing an easy cure to the suffering humanity.

BI/20, Safdarjung Enclave
New Delhi—110016
25th March, 1976

K. C. GUPTA
Deputy Secretary (Retd.)
Ministry of Health & Family Planning,
Government of India, New Delhi.

C o n t e n t s

CHAPTER	PAGE
Dedication	(v)
Acknowledgment	(vii)
Foreword	(ix)
1. Introduction	1—5
<p>Ancient knowledge about magnets—Magneto-therapy—a science and an art—in advanced countries. Purpose of the book—Suggestion for a standard method—Use of magnets upheld by Homoeopathy.</p>	
2. Discovery of Magnetism	6—11
<p>Reference of magnets in Vedas—Relevant Mantras with English translation—Discovery of magnet in modern times—First treatise on Magnetochemistry in India—Magnet as known in different languages.</p>	
3. Magnetism in the Universe.	12—18
<p>Earth as a huge natural magnet—Nature of Earth's magnetism—Sources of Magnetism of Earth—Earth's magnetic effect on human beings—Magnetism in the other Astral bodies.</p>	
4. Effect of Magnetism on Living Organism	19—31
<p>General influence on living beings—Important conclusions—Results of experiments in U.S.A.—Results of experiments in Russia—Results of experiments in Japan—Effect of Magnetism on Plant life—Effect of Magnetism on Animal life—Effect of Magnetism on Human life.</p>	

CHAPTER	PAGE
5 Human Magnetism	32—38
Ancient philosophy—Magnetic powers of great personalities—Personal magnetism—Mesmer and his Mesmerism—Magnetism, psychoanalysis and psychiatry.	
6. Human Body—An Automatic Machine with Magnetic Properties	39—44
Brain and Heart—most important parts of human machinery—Human Brain and its functions—Human Heart and its functions.	
7. Role of Blood in Human Body	45—55
Composition of blood—Blood circulation—Clotting of blood—Heart (cor or cardia)—Action of heart—Diseases of heart—Bloodpressure—Functions of blood.	
8. How Magnets Affect Human Metabolism	56—62
Different theories of biological effects—The most popular theory—Action of magnetic flux on blood—Action on Hormone Secretion—Reformation and resuscitation of cells—Acceleration of self-curative powers—Summary of beneficial influence of magnets.	
9. Magnet and its Composition	63—71
Natural and artificial magnets—Electromagnets and permanent magnets—Different shapes, sizes, designs and strength—Classification of magnetic materials—Magnetisation and magnetic poles—Established law of Magnetism—Power of magnets—Various qualities of a magnet.	
10. Technique of Application of Magnets	72—97
Different poles have different effect on human body—Local treatment—General treatment—Electricity	

and Magnetism—Electropathy and Magnetotherapy—Standard lead technique of ECG—Five methods of application of magnets—Technique of contact with magnets—Some simple tests to perceive magnetic force—Treatment of diseases—Selection of magnets—Seating of patients—Peculiar manifestations on application of magnets—Duration of application of magnets—Different ways of appl. ation of magnets advocated by different magnetotherapists—Guidelines and precautions for use of magnets—Techniques of application of magnets in the treatment of 100 common diseases.

11. Magnetised Water

98—104

Characteristics of water—Influence of magnetic field on properties of water—Useful results of experiments with magnetised water—Beneficial effects of magnetised water on human beings—Magnetised water helps in all diseases—Milk can be magnetised and made more potential—Preparation of magnetised water—Dosage of magnetised water.

12. Advantages of Magnetotherapy

105—114

Strong medicines have strong reactions—Magnetotherapy is a natural treatment—Magnetic touch accelerates blood circulation—Beneficial for light conditions as well as for serious diseases—Very quick relief in some cases—Magnets keep their users fresh, energetic and youthful—Precautionary and Prophylactic use of magnets—Side effects—Magnetic treatment beneficial for people of all humours and characteristics.

13. Experiences of Indian Magnetotherapists 115—133

Some peculiar cases treated by Dr R S. Thacker of Delhi—Cases treated by late Dr B Bhattacharya

and his son—Dr A.K. Bhattacharya of Naihati. West Bengal—Cases treated by Shri D.N. Ramchandran of Madras—Cases treated by Flt. Lt. Dr B.K. Sonpar of Poona—Cases treated by Dr G. I. Bhatia of Bombay—Some of the cases treated by the Author.

14. Clinical Reports from Foreign Countries. 134—141

Reports from some companies of Japan—Reports from the United States of America—Cases treated by Dr Howard D. Stangle of New York—Experience of Dr Albert Roy Davis of Florida, America—Reports from Russia—Reports from Italy—Reports from Scandinavia.

15. Magnet as a Preventive Device 142—146

Good health—noblest gift of God—Prevention is better than cure—Use of magnet as a preventive device—Application of magnets-curative as well as preventive.

16. Magnetotherapy and Homoeopathy. 147—157

Magnetotherapy closely allied to Homoeopathy—Dr Hahnemann and Mesmer were contemporaries—Observations of Hahnemann about use of magnets—Three medicines prepared in Homoeopathy from the magnets cover 1243 Symptoms—Dr Allen writes a great deal about these medicines—Details of 50 major symptoms of the three remedies.

17. Magnetotherapy and Acupuncture or Acupressure. 158—164

Acupuncture—Ancient Chinese Art of Healing—Acupuncture points—Various ways of stimulating

CHAPTER	PAGE
the points—Certain clinical cases—Acupressure— Suggestion for utilising acupuncture points in Magnetotherapy	
18. Terminology	165—169
Technical terms relating to Magnet and Magnetism	
Availability of Magnets	170
List of References	171—173

Introduction

Magnetism is well-known in the fields of physics, industry and commerce. It is also known for centuries to have remarkable effects on certain metals as well as on living organisms, but its recognition as having highly beneficial clinical impact on human ailments has been a comparatively recent development and is not yet widely known.

In the past, a variety of wonderful properties were attributed to the magnet from time to time. For instance, dignitaries wore magnets on their persons for the purpose of maintaining vigorous health and for arresting ageing of their bodies. Cleopatra (69-30 B.C.), the extraordinarily beautiful daughter of the king of Egypt—Ptolemy Auletes—is said to have worn a magnet on her forehead to maintain her beauty. Magnet was used as an amulet to relieve headaches. The common people believed that the magnet had a divine force. A philosopher-scientist went to the extent of concluding that “a magnet has a soul because it moved iron”. Although, apparently, a magnet has no life, yet the intelligence of its poles to recognize friendship or hatred of the poles of another magnet and to attract or repel it accordingly, remains unexplained even today.

Magnet has proved to be highly beneficial in certain diseases. It is known to have the power of drawing pain out of the body, of relieving stiffness of joints and muscles and of removing toothache immediately. It has also the capacity to reduce weight in obesity, to increase height of short-statured boys and girls and to increase intelligence and wisdom, if used for a long time. It also corrects blood pressure and provides immunity against certain diseases of human body by increasing the vitalising secretions of glands.

Magnetotherapy

Keeping in view these and other innumerable positive properties of the magnet and with the objective of deriving the maximum benefit from its qualities, 'Magnetotherapy'—the system of treating patients through the medium of magnets—is discussed in this book.

A Science and an Art

Magnetotherapy is both a science and an art. This is a science as magnetism is similar to, and works on the lines of, electricity ; and its application is an art as it involves the selection of magnets of different strength, to different parts, to relieve different ailments of the body. It is a system of treatment which covers a vast field of therapeutics and can relieve almost all functional defects of the various systems working in the human body.

Magnetotherapy is based on natural laws and principles and is not a magic or miracle. It means carrying out treatment of the sick with application of magnets over the suffering parts of the body, or on the extremities for altering the diseased condition into a state of recovery and complete health

The use of magnets for treatment is not a new system ; there are references about it in the very ancient records of human knowledge. The system has, however, been forgotten and become almost extinct for various reasons. One of the reasons may be the recent faith of people in antibiotics, fancy for the use of costly modern medicines in place of simple and easily available ones, patent tablets or capsules and injections, etc , professed to afford quick relief.

In Advanced Countries

The system of treatment with magnets has, however, been gaining popularity in the advanced countries like USA, USSR, Japan, and several other countries and a large number of patients, including those suffering from chronic diseases, are being cured by it. It is, therefore, believed that if a large number of people start taking interest in this system of treatment, it will spread out again and help to build a happier and healthier world of less sufferings.

Purpose of the Book

The purpose of this book is to invite the attention of the learned men of medical profession and to inform them about the existence of a large scope for further research and exploration in this branch of medical science. The general public can also utilise the therapeutic application of the magnetic properties in their sickness and judge for themselves the advantages of magnetism in relieving and curing diseases even when they are undergoing treatment under any other system or when other systems of medicine have not been able to tackle their diseases successfully or completely.

It is not easily conceivable why magnets with their power to attract and repel are able to bring about cures of human ailments. An effort has been made in this book to explain how the magnets act on the human system to regulate the process of metabolism and how they work through blood and nerves correcting the circulatory system as well as other systems of the body.

There are very few books available in India on this system of treatment. The available literature does not explain in detail the methodology of application of magnets in different diseases. It merely provides a short description of some cases successfully treated by some physicians in India and abroad. As this system of treatment is yet to be fully developed, there is no uniform procedure for the use of magnets in human sickness. According to the available literature, magnets were placed on the affected parts of the body in the past. Consequently, some persons have worn small magnets around their necks like amulets, or on their wrists like wrist-watches, some have worn them around their waists like belly-belts, while some others have worn them over the affected parts of their bodies. Then, the available books do not provide uniform instructions regarding the time limit for the use of the magnets. This has resulted in some patients having applied magnets for several minutes, some for hours, some for days, some for months and some others even continuously for years. All this goes to show that no standard and effective procedure or technique has been

developed and universally followed in the treatment through magnets so far.

Suggestion of Standard Method

Although the exact technique of application of magnets depends on the requirement of each individual case, yet some basic knowledge of the principles of application of magnets is necessary to begin with. Hence an attempt has been made in this book to suggest a standard procedure to be followed in carrying out magnetic treatment on scientific lines. The methods and techniques of application of magnets have been arranged in a systematic way which will render them easy and handy to the reader when he wishes to make use of a magnet as a curative device. The persons who wish to adopt magnetotherapy as their hobby or part-time practice for the benefit of the sick, can easily learn the art from this book.

Knowledge and experience are ever-growing and there is always scope for further research and development. Hence, besides the methods of application of magnets suggested in this book, some other ways of using magnets could also be developed. No perfection can, therefore, be claimed by anybody in such matters. The methods suggested herein have, however, been found to be quite effective and are, therefore, recommended for adoption.

Use of Magnets Upheld by Homoeopathy

The use of magnets has been upheld and recommended by the Founder of Homoeopathy, Dr. Samuel Hahnemann, too. He has also introduced three varieties of magnetic medicines in Homoeopathy. His observations about the magnet and a number of important symptoms, proved and verified by him for the use of the three magnetic medicines, have been included in a separate chapter in this book. No other branch of medical science seems to have made use of magnets for the treatment of human ailments, in a regular way, so far.

There appears to be a close affinity between the principles of magnetotherapy and practice of Acupuncture or Acupressure. The various 'Acupuncture points' could also be consi-

dered as 'magnetic points' for application of magnets on the human body. This view has been dealt with in a separate chapter at the end of this book.

It is hoped that this new approach would stimulate further thinking in the professionals and others and would open up new avenues for scientific research in this field, as the integrated application of the above mentioned allied medical sciences may help to break the disease deadlock, in many cases, for the ultimate benefit of the sick humanity.

The arrangement of different chapters in this book has been so made as to take the reader systematically from the early discovery of the magnets to the advanced techniques of cure. Besides suggesting the general methods of application of magnets, the treatment of a hundred common diseases has been specifically advised. This will make the magnetic treatment more easy and practicable. With a view to provide all easily available information, many cases treated successfully in India and abroad have also been included in separate chapters.

It is a known fact that all inventions, fresh devices and new schemes are introduced on the basis of accumulated experiences and experiments of a number of people, sometimes of several generations. Magnetotherapy has also been developed in course of long time and many physicians, researchers and scientists have contributed towards its development. Hence this book contains, besides the author's own observations and experiences, the ideas, statements, views and experiences of many philosophers, physicians and scientists of several countries.

It is requested that the experiences of the persons who use magnets for the relief of suffering humanity, along with any useful suggestions for improvement in this book, may kindly be intimated to the author for doing the needful.

Discovery of Magnetism

Magnet and its properties were known to the very ancient Aryans. They believed that the magnet, besides having the power of attracting iron, was also endowed with many mystical and curative powers. There is a mention of treatment of some diseases with special sand and stones at several places in the Vedas which are the most ancient religious scriptures of the Hindus.

Relevant Mantras with English Translations

The Atharva Veda, which is the basis of the Ayurvedic system of treatment, deals with the treatment of many diseases. Some of the mantras of the Atharva Veda are quoted below to substantiate the above statement :

Mantras 3 and 4 of Sukta 17 of Kand 1 of Part I of the Atharva Veda pertain to the treatment for stoppage of bleeding with the help of some articles of sand and are as follows :—

शतस्य घमनीनां सहस्रस्य हिराणाम् ।
अस्थुरिन्मध्यमा इमाः साकमन्ता भरंसत ॥ 3 ॥
परि वः सिकतावती धनूर्बृहत्यक्रमीत् ।
तिष्ठतेलयता सु कम् ॥ 4 ॥

Mantras 2 and 3 of Sukta 35 of Kand 7 of Part III of the Atharva Veda deal with the treatment of women with the help of stones and are as under :

इमा यास्ते शतं हिराः सहस्रं घमनीरुत ।
तासां ते सवीसामहमश्मना बिलमप्यधाम ॥ 2 ॥
परं योनरवरं ते कृणोमि मा त्वा प्रजाभि भून्मोत सूनुः
अस्व त्वाप्रजस कृणोम्यश्मान ते अपिधान कृणोमि ॥ 3 ॥

The Dictionary meaning of the word Siktavati used in the mantras of Sukta 17 and of the word Ashman used in the mantras of Sukta 35, mentioned above, are as given below :

SANSKRIT-HINDI DICTIONARY

Sikta	= Sand
Siktavati	= Full of sand
Ashman	= Stone, Chakmak Patthar (and other things)
Ashmana	= with the stone.

SANSKRIT-ENGLISH DICTIONARY

Sikta	= Sand, gravel, stone
Ashman	= Stone, rock, precious stone, any instrument of stone.

It is thus clear that the mantras of Sukta 17 speak of stoppage of bleeding with something full of or made of sand and the mantras of Sukta 35 mention about the treatment of women with some kind of stone.

The English translations of these mantras by Prof. Friedrich Max Muller of Germany, one of the most eminent orientlists, who has translated all the four Vedas and many other Sanskrit and Hindi religious books of India, are given below :

I. Translation of Mantras 3 and 4 of Sukta 17 :

- (3) Of the hundred arteries, and the thousand veins, those in the middle here have indeed stood still. at the same time, the ends have ceased (to flow).
- (4) Around you has passed a great sandy dike, stand ye still, pray take your ease.

II. Translation of Mantras 2 and 3 of Sukta 35 :

- (2) Of these hundred entrails of thine, as well as of the thousand canals, of all these have I closed the openings with a stone.

- (3) The upper part of the womb do I place below,
there shall come to thee neither off-spring nor birth,
I render thee sterile and devoid of off-spring,
a stone do I make into a cover for thee.

The treatment mentioned in the above mantras of the Atharva Veda could not have been carried out by means of ordinary sand or simple stones but only with some special sand and stones having specific healing properties. The common metallic magnets are made from iron-alloys, while ceramic magnets are manufactured from sand, clay, barium and iron oxide. Hence the mention of the words *Siktavati* (meaning sandy) and *Ashma* (meaning chakmak patthar) in the Vedas and *Lohakant* in other ancient Ayurvedic literature is a sufficient proof that the magnetic stone and its properties were known in India since times immemorial.

Discovery of Magnet in Modern Times

In the comparatively modern age, the discovery of magnet is said to have been made several hundred years Before Christ. However, there are different views about the basis of this discovery. One view is that the power of attraction in a piece of rock, called lodestone, was first discovered some 2500 years ago, by a shepherd boy named Magnes. He, while roaming about on Mount Ida, found that his iron-capped staff got stuck to the mountain and it became difficult for him to walk away with his iron-stacked sandals. According to that view, the stone was named after the shepherd boy and came to be called 'Magnet'. Another version is that long ago a kind of dark-coloured Iron-ore composed chiefly of iron and oxygen (Fe_3O_4), was found in abundance in Magnesia in Asia Minor. This ore had attractive and directive powers and it derived the name of Magnetite from Magnesia where it was first found.

In 800 B.C., the lodestone was known to the Greeks, as a mention of it is found in the works of Aristotle (384-322 B.C.), Plato (429-347 B.C.) and Homer (about 850 B.C.). Plato gives an account of the "Samotheacian Rings", which were used in the ceremonies of the Dactyles, a tribe of roving iron workers.

These rings were iron-rings magnetised by contact with natural magnets or lodestones.

Later, the Chinese sailors came to know of the directive property of the natural magnet and used it as a compass for finding directions for their ships in early second century (A.D.). They called it Magnetite, leading stone, or briefly, lodestone.

The famous Swiss Alchemist, Physician and Mystic, Phillipus Aureolus Paracelsus (1493-1541 A.D.) made great landmark in the history of magnetism. He explained it as : "That which constitutes a magnet is an attractive force which is beyond our understanding, but which, nevertheless, causes the attraction of iron and other things". He gave the characteristic powers of the magnet, particularly for healing the sick. He observed that the magnet is especially useful in many internal as well as external diseases. The observations recorded by him centuries ago hold good even at present.

Then Dr William Gilbert of Colchester, England (1540-1603 A.D.), a famous physician of his time, who was also the president of the college of physicians and the court physician to the Queen Elizabeth I, was the first Englishman to make a scientific study of Electricity and Magnetism. He made wide tours and studied the peculiar behaviour of magnetic needle showing different declinations and inclinations and gave out that the earth itself is a huge magnet. He made many experiments to prove his theories. He placed a rod of iron pointing North and South and hammered it so that it became magnetised by earth's influence. In the year 1600 A.D., he wrote an epoch-making book named "De Magnet", which became very popular. While studying this book, Galilei or Galileo (1564-1642), a great mathematician, philosopher and scientist of Italy, once remarked "I extremely admire and envy the author of "De Magnet". Gilbert also showed that iron ceases to be attracted when red hot and that substances such as paper and cloth do not affect the force of attraction between a magnet and iron. Most of the terms now current in magnetism were used by him, perhaps for the first time.

Then several other scientists made further experiments and gave their experiences to the world. In the middle of the 19th century, Michael Faraday (1791-1867), an English scientist, made very important discoveries and revelations. His first independent achievement was the demonstration of a magnet round a current. He enriched the science of magnetism in its many branches such as electromagnetism, magnetic lines of force, magnetic rotary polarisation and electromagnetic induction. He kept a careful record of his experimental researches and the last serial number was above sixteen thousand. He is regarded as the founder of Biomagnetics and magnetochemistry. He based his investigations on the earlier researches of the great scientists A.M. Ampere (1775-1836), H.C. Oersted (1777-1851), D.F. Arago (1788-1853) and J.B. Biot (1774-1862). Faraday showed that all matter is magnetic in one sense or the other, that is, the matter is either attracted or repelled by a magnetic field.

First Treatise on Magnetochemistry in India.

In India, the first treatise in English dealing with physical principles and the application of Magnetochemistry was produced by S. S. Bhatnagar and K. N. Mathur, in the year 1935. They mainly studied oxidation. An excellent summary of the work is given in their book on Magnetochemistry (Macmillan, London—1935).

Further experiments in Biomagnetics and other aspects of magnetotherapy are being made now extensively in many countries like USA, USSR and Japan as well as in India. The foreign countries have already made much advancement in this line. The conclusions arrived at in foreign countries as a result of treatment through magnets are described elsewhere in this book. India has also kept pace with these developments and is making satisfactory progress in this respect, as pointed out in another chapter. Thus the ancient knowledge about the therapeutic uses of the magnet has been revived during the last 200 years and is being developed now with the hope of increasing the utility of magnet as a healer of human sufferings.

Magnet as Known in Different Languages

The original iron-ore, which had attracting power and was natural magnet, was named 'Magnetite'. It was also called 'loadstone' or 'lodestone'. The word loadstone was derived from the word 'load' used in old English, which, among other things, meant course, journey, etc., conveying the idea of direction.

The Greeks called it 'Magnetis' or 'Magnetos' (meaning stone) and the French call it 'Aimant' meaning magnet and loving).

The magnet is called '*Chumbak*' (kissing stone) in Hindi and '*Magnatees*' in Urdu and Persian. The Chinese call it '*Chu Shi*' (meaning loving stone).

A big company of Japan, engaged in the manufacture of various magnetic materials for the treatment of human diseases, has named itself "The Aimante Trading Co. Ltd." after the word 'Aimant'.

Some gemmologists consider a small magnet to be one of the several precious gems which are advised to be worn for various purposes, namely, for maintenance of health, for peace of mind and for general prosperity. Accordingly, they call it a 'Gem' also.



3

Magnetism in the Universe

Magnetism is the basic principle that dominates and governs the infinite universe and holds various heavenly bodies in a natural bondage. The earth, the sun, the moon and all the other planets in our own galaxy transmit their own magnetic emanations which greatly influence our lives.

Earth as a Huge Natural Magnet

The earth is a huge natural magnet and the magnetism of the earth is a very interesting subject. The terrestrial magnetic history is still in the making and full facts about it have not yet been explored and recorded. Hence it is an important field for further research. However, the researches made, results achieved and conclusions reached so far about the magnetism of the earth are summed up below :

The earth exercises its inductive influence on magnetic substances. This fact has been proved through many experiments, as :

- (i) The anvil of a blacksmith gets magnetised in the North-South direction,
- (ii) A vertical bar of iron or steel begins to exhibit magnetic properties.
- (iii) If a bar of iron is laid horizontally in the North-South direction, the end pointing to the North acquires North polarity,
- (iv) If a magnet is pivoted so as to swing in a vertical plane or in horizontal plane, it comes to rest along a particular direction.

All these happen as a result of the inductive influence of the earth and show that the earth behaves as a huge magnet with a magnetic field around it.

In the Northern Hemisphere, the bottom end becomes a North Pole and the top end a South Pole. Reverse is the case in the Southern Hemisphere. In order to have a clear understanding of the state of the earth's magnetism, it is necessary to know the intensity, direction and variation of this great magnetic power over the whole of the surface of the earth and the subject becomes a matter of detailed study. Hence only general and more relevant information about terrestrial magnetism is given here.

Nature of Earth's Magnetism

The earth is transmitting magnetic energy to all living organisms—human, animal and plants.

The earth as a natural magnet has two poles, North and South, like those of any ordinary magnet. The North Pole of the earth is located somewhere at the extreme north of North America and the South Pole at the extreme south of South Victoria. The points of the North and the South Poles of the earth do not remain static but undergo slow shifts.

The earth has its magnetic lines of force around it just as an ordinary magnet possesses its magnetic field around it. The magnetic lines of force of the earth extend approximately from the geographical south to the northerly direction. The magnetic cloak or the field of earth is not a thin wrapping round its surface but it forms a thousand-mile thick stratum. It has come to light that Sputnik III and other satellites have detected earth's magnetic field extending to a distance of 105600 kilometres (66,000 miles) beyond the surface of the earth. This has been revealed by the presence of the charged particles shot out from the sun and entrapped by the earth's magnetic field.

Whenever we suspend a bar magnet, it points approximately to North and South. It proves that there are two definite

regions of the earth which attract the respective opposite poles of the suspended magnet. This happens because the earth is a gigantic magnet with its South Magnetic Pole somewhere near the North Geographical Pole and the North Magnetic Pole near the South Geographical Pole. It is due to the mutual effect of the forces between the poles of the earth and those of the magnet that the latter tends to set itself parallel to the magnetic axis of the earth. It is, therefore, concluded that the North Geographical Pole and the South Magnetic Pole are near each other, and the North Magnetic Pole is near the South Geographical Pole of the earth. Hence the Geographical Poles of the earth do not coincide with its magnetic Poles.

The distribution of magnetic lines of force at various localities of the earth goes to show that the earth behaves very nearly as a uniformly magnetised sphere. Dr William Gilbert (1540—1603) who carried out certain experiments in the year 1600, gave us the picture of the general character of the earth's magnetic field and concluded that the earth is itself a big natural magnet.

Everything on earth and in the air above is permeated with the earth's magnetic force. Gauss, the illustrious German astronomer, has computed this force and has stated that the attracting force or lifting power of the earth is forty two quintillions and three hundred and ten quadrillions of tons, which, if equally distributed throughout the mass of the earth would make the magnetic intensity of every cubic yard equal to sixty pounds attracting force. Professor Mayor has shown that this magnetic influence is filling space to an unknown distance and is radiating the lines of magnetic force like the rays of the sun.

Sources of Magnetism of Earth

Various theories have been advanced to account for the origin of earth's magnetism. One school of thought is that the earth is a permanently magnetised sphere, having two polarities at the two ends, while the other school of thought is that the annual variations and the magnetic storms of the earth owe their origin to the sun and cause magnetic effect on the earth.

Yet another view is that the permanent magnetism of the earth might have its origin in the rotational motions. The magnetic field of the earth may also be due to :

- (i) a permanent magnet, magnetic masses or electric currents inside the earth,
- (ii) a magnetic field, the origin of which is at a considerable distance from the earth,
- (iii) electric currents produced due to the ionisation of layers of air surrounding the surface of the earth.

Whatever the source of the magnetism of the earth may be, it has been established in view of what has been stated above, that the earth is a large natural magnet.

Earth's Magnetic Effect on Human Beings

Human body itself is a magnet. In magnetic parlance, our bodies are considered to have magnetic sides. Considering a human body vertically, the head and the upper half of the body are taken to represent 'North Pole' and their opposites, namely the feet and the lower half of the body, are taken to represent 'South Pole'. Considering the human body horizontally, the right hand, the right arm and the right side of the body are considered to be 'North Pole' and their opposites, namely the left hand, the left arm and the left side of the body, are taken to be 'South Pole'. Also the front side of a person consisting of forehead, face, chest and belly is considered North and back side consisting of occiput, back of neck, spine and hips is considered South.

Abiding by natural law and forces, any action or deed done in the natural direction, affords peace and pacification, and causes the least possible discomfort than when done otherwise. Accordingly, if we lie, when going to sleep, in the same posture, in which a hanging bar takes its direction, we can avoid tension, sleeplessness and restlessness. When we lie stretching our North to the North of the earth and our South to the South of the earth, we attain equilibrium. Hence it is wise to lie with

the head towards the North and the feet towards the South, while sleeping. This position brings on better sleep and also improves health. This is because the body in that direction is in accordance with the magnetic direction of the earth and the magnetic currents affect the system favourably.

According to the ancient philosophy, when a person on the death-bed finds it extremely painful and difficult to breathe his last, he is made to lie on the earth in the North and South position—the head being towards the North. This brings the person in line with the magnetic direction of the earth and the soul of the dying person is believed to leave the body with less pain and agony.

It is a custom among the Hindus that when the death of any person is impending and is feared any moment, the patient is laid down on the earth to breathe his last. This custom prevails according to the above belief about the soothing effect of the magnetic currents of the earth on the human bodies.

Magnetism and electricity are related subjects and they go side by side. The earth is not only a huge magnet but a vast electrical reservoir too, as an electric current, when released, finds its way into the earth. The human body also is a miniature form of the earth. There is exchange of matters, magnetism and electricity in human bodies. That is the reason why improvement in health occurs by walking on dewy grass or by sleeping out-doors on newly mown hay. The Yogis believe that in some mysterious way the power enters the body and restores energy.

Magnetism in the Other Astral Bodies

We have so far considered the magnetism of the earth. If we go a little further, we find that not only the earth, but the whole universe is permeated with magnetism. As the earth is profoundly affected by the attractive emanations of the sun and the moon, these are dealt with in a little detail.

The Sun

The sun is a large natural magnet and has great attractive power. It is attracting all other planets which remain revolving around it under its magnetic influence.

The earth is especially related to the sun. It rotates on its axis and also revolves around the sun. The rotation causes days and nights and the revolution causes years. During revolution there are great changes on the earth due to different exposures of its surface to the sun's rays. These changes make seasons and consequently influence human beings in many ways.

The sun represents fire while the moon rules water. Heat, light and moistures are necessary for all kinds of growth. As the sun and the moon provide these requirements, they help a great deal in production of all eatables and vegetation as well as in the maintenance of life on the earth.

The Moon

The moon too is a great natural magnet. Both the dark and bright fortnights of the moon have great influence on our lives. Many things of our routine life are affected by the moon. The ancient Indian calendars were made with reference to moon. The dates of women's menstrual periods are counted with reference to the lunar calendar. The time and date of observance of many festivals in the Hindus as well as in the Muslims are determined with reference to the appearance of the moon.

The moon through its attractive force, causes tidal waves in the seas. Similarly, the human bodies which consist of about seventy per cent of liquids are greatly influenced by the moon. Statistics have proved that body fluids flow more freely at the time of full moon. It has also been established that the lunatics get their worst attacks on full moon days. The word 'lunatics' has been derived from the word 'Luna' which means moon.

The custom of fasting on new moon and on full moon days has been considered highly scientific, since it helps in reducing the body fluids and in maintaining proper equilibrium in the body.

Many diseases as well as medicines are also affected by the magnetic effect of the moon. Some diseases are aggravated in the days of full moon and some medicines work better when administered on full moon days.

There is a certain Ayurvedic medicine for *Asthma* which is given to the asthmatic patients on the night of the *Sharad Poornima* (full moon night) which generally falls in the month of October each year. That medicine is taken with *kheer* in the early hours of the morning, after keeping the *kheer* openly exposed to the especially effective rays of the moon throughout that night. The same medicine works better if taken that night in that way, due to the special magnetic effect of the moon-rays on that night. This shows how an important role is played by the magnetic force of the moon on our health and lives.

Similarly, other planets also have their magnetic effect on our lives. Such effect of the different planets together with that of the sun and the moon, forms the basis of astrological calculations and predictions.

Thus we find that all the planets in space have their magnetic powers and give out astral emanations, like the terrestrial objects. They exert their influence upon each other as well as upon every organised being, including human beings, in proportion to their size, their distance and the velocity of their revolutions.

The strength of the magnetic field of the Earth is approximately 0.5 oersted while that of the Sun is 25 to 50 oersted, i.e., 50—100 times greater.

It is thus clear that the earth, the sun, the moon and all other planets have great magnetic influence on our lives.

Effect of Magnetism on Living Organism

Let us now direct our studies to ascertaining the effect of magnetism on living organism—namely on the worlds of (i) Plant life, (ii) Animal life and (iii) Human life.

Man seems to have been fascinated by the mysterious powers of a magnetic field over life since ancient times, but a true scientific study of its effect on living matter was not made until the first quarter of this century. It is during the recent period of about the past fifty years or so that a considerable research and investigational work has been carried out in different countries to observe and record the effect of magnetism on living organism. It is during this period that several reports on the effect of magnetic field on life—from bacteria to animals have appeared from time to time and several studies have been published in various journals and books. However, only little is still known about the extent of the effects of magnetism on human beings and still further less about its therapeutic effect in the cure of the diseases of the human beings.

It has been noted that the nature of the magnetism of the huge natural magnet 'the Earth' and that of the small man-made magnets whether electromagnets or permanent magnets is the same except that the intensity of their magnetic power differs. The effect of the magnetic fields is regular and continuous. The constant flow of energy emanating from the magnets, either from the big natural magnets or from the small artificial magnets, cannot be interrupted or stopped according to our wish and it continues to have its influence as long as the objects remain in its field.

A magnetic field is created by a magnet within the bounds of its effect on all the biological systems of plants, animals and human beings. In the case of the magnetism of the earth, it contributes to the propagation, growth and sustenance of life on its surface. There is a great possibility of extending the life span of all living creatures and also of bringing about complete cure of many sufferings of human beings, by the use of magnets as remedial agents if magnetotherapy can be fully developed.

The question of the power of the magnet or the magnitude of the magnetism to be used in each case is very important. Hence a problem to be considered in any experiment is about the strength of energy that is to be applied. As far as plants are concerned, a solution of this problem seems to lie in treating seeds with magnetic fields. By exposing seeds for different lengths of time to a known strength of a magnet or by increasing or decreasing the strength, the exact point of the full effects of magnets can be ascertained. Thus the needed strength for production of the biggest and the best plants can be fixed. Similarly, experiments on animals and human beings may also be carried out to ascertain what strength of magnetism will be appropriate to obtain the best results.

Dr Madeleine F. Barnothy, Professor of Physics, College of Pharmacy, University of Illinois, USA, has compiled and edited two volumes of a highly technical book on Biomagnetism. The book is entitled, "Biological Effects of Magnetic Fields" and includes many articles contributed by several scientists of the United States and various other countries such as England, France, Russia and Sweden. Biomagnetism has been defined therein as the 'Science of processes and functions in living organism induced by the static magnetic fields'. Reports regarding the results of thousands of experiments of magnetism carried out on mice and other specimens such as bacteria, birds, drosophila flies, fish, molds, pigeons and rabbits as well as on plants and tissue cultures have been recorded in the book.

The experiments, referred to above, were made in different ways by many scientists. A large number of experiments were made by exposing mice to as high a magnetic field as 1,20,000 Oe. The mice not only survived these high exposures from 10 minutes to one hour without showing any ill effects, but also improved in weight and remained in good health even long after the exposures. A two-hour exposure of *Neurospora crassia conidia* to a 1,40,000 Oe field, too, produced no mutants.

The results of these studies have valuable implications on the exposure of man to strong magnetic fields. The fact that a mammal survived prolonged exposure to a magnetic field of 1,20,000 Oe increases confidence in the safety range in human exposure. It has been reported that no harmful effects were observed in men exposed to magnetic fields up to 20,000 Oe for a duration of 15 minutes.

Important Conclusions

Some of the other important conclusions arrived at as a result of the experiments are as under :

- (a) Magnetically susceptible nutriment such as iron, manganese and cobalt are present in plants in low concentrations as 'trace' elements. They play important regulatory roles in seedling growth.
- (b) Magnetism affects every cell in the body of the organism on account of its highly pervasive character.
- (c) A magnetic field can exert, without participation of the sense organ, direct influence on the diencephalon (middle brain controlling the endocrine system).
- (d) The structure of the forebrain and diencephalon, deprived of any nervous connections with the receptors, react to a static magnetic field more often, more rapidly and more intensely than an intact brain.

- (e) Magnetic treatment has a stabilising effect on the genetic code.
- (f) A consistent and noticeable effect is produced by magnetic field on healing of the wounds. Pathologists have confirmed that fibroblast proliferation and fibrosis are reduced in magnetic fields. Microscopic evaluation also revealed a marked reduction in fibrosis due to magnetic treatment.

The author of that book has expressed the hope that magnetic field will in due time develop into a powerful new analytic and therapeutic tool of medicine.

Dr Howard D. Stangle of New York, USA, believes that Magnetism is a true science and has observed that this is a subject that should excite universal interest. In fact many experiments have already been carried out in several countries of the world including India. The experiments have been made in different directions with different view-points and have naturally led to various conclusions. It has, however, been noticed that biological effects are influenced by both the magnitude of the field and the duration of exposure. The results of some important experiments made in various countries are given below :

Results of Experiments in USA

- (i) The representatives of :
 - (a) West Virginia University,
 - (b) University of Illinois and
 - (c) Biomagnetic Research Foundation have, after extensive investigations, concluded that there is a change in the position of the bacteria due to the influence of a magnetic field. This change is on account of their inherent motion.
- (ii) The Department of Biological Sciences, North Western University have observed that there remains no reasonable doubt that living systems are extraordinarily sensitive to magnetic fields.

- (iii) The Medical Science Department, AVCO Corporation, Willington, Massachusetts have affirmed that, under favourable circumstances, static magnetic fields can produce observable effects on models which are representative of living tissues.
- (iv) An eminent professor of Orthopaedic Surgery, State University of New York, opines that there is little doubt that some interaction exists between the function of the Central Nervous System and external magnetic fields.
- (v) The Division of Biology and Experimental Medicine Cincinnati, Ohio, has declared that the results of the study of various types of cells indicate that both the qualitative and quantitative effects of a magnetic field are visible on tissues of respiration and are correlated with several biological factors. It can be concluded that a magnetic field has an effect on cellular metabolism which is related to the type and age of the tissue and that this effect is correlated with the strength of the magnetic field.
- (vi) Dr. Hansan has stated in a clinical report that a constant magnetic field reduced the sensation of pain.
- (vii) George N. Cotham of the National Aeronautic and Space Administration, Washington, D.C., relates :

“Careful and precise studies of magnetism and its effect may open up a new approach to biology since the entire body is an electrical organism basically ; from the characteristic electrical charge and valences of atoms of bioelectric energy in nerves, organs and tissues. Fields of magnetic energy properly applied and directed might, therefore, affect the electrical response behaviour pattern. It has been ascertained that the heart rhythmically beating and motivated by an electrical impulse produces a very minute magnetic field.”

- (viii) Other experiments were also conducted which indicated the influence of a magnetic field on ageing.

Results of Experiments in Russia

- (i) The Institute of Physiology of Academy of Sciences, Azarbaijan, USSR, have studied the effect of a constant magnetic field on the blood picture as well as its effect on the Erythrocyte Sedimentation Rate (ESR). Conclusions have been arrived at, on a detailed study, that there were changes in the blood picture resulting from exposure of the organism to a constant magnetic field.

This information may prove useful to physicians in the diagnosis of diseases of the vascular system as well as of other systems.

- (ii) The Institute of Higher Nervous Activity and Neurophysiology, USSR Academy of Science, conducted various experiments on several fish and rabbits and arrived at the following conclusions :

- (a) A magnetic field is a weak stimulus. The reaction to this stimulus takes place approximately in 40 to 70 per cent of all cases when magnetic field is applied.
- (b) A magnetic field produced predominantly an inhibitory effect.
- (c) A reaction to a magnetic field sometimes persists even after the latter is discontinued.
- (d) A static magnetic field acts directly on the structures of the diencephalon and forebrain.

In connection with (a) above, it may be added here that according to the Arndt—Schulz law of Pharmacological action, "small stimuli encourage life activity, medium strong stimuli tend to impede it and very strong stimuli are apt to stop or destroy it".

Results of Experiments in Japan

Numerous experiments have been made in Japan with different magnetic products manufactured by various companies. Most of the experiments made on the stiffness of shoulders and high blood pressure were carried out with Magnetic Health Bands. As a result of these experiments, the following comments, observations and conclusions have been made :

Comments

- (1) An electromotive force is induced by wearing a Magnetic Health Band ;
- (2) The electromotive force created by the Band acts upon all blood vessels passing beneath the spot on which the magnetic band is worn ;
- (3) The absolute value of electromotive force in itself is small. Hence the living bodies are affected by the action of this force over an extended period of time.
- (4) Although the living bodies are affected, the phenomenon which takes place is very complex and the mechanism leading to the results manifest in experiments is unknown.

Observations

The undermentioned four factors are believed to govern the extent of the effects brought out by magnetism in living bodies :

- (1) Strength of the magnetic field,
- (2) Length of time in the magnetic field, --
- (3) Area of living body penetrated by lines of magnetic force, and
- (4) Blood flow velocity.

Conclusions

- (1) Magnetism has a definite effect on living bodies.

- (2) Magnetism proved of great effect in the treatment of some special ailments, and
- (3) The effect of magnetism is due to :
 - (i) The activity of living bodies within the scope of the magnetic field,
 - (ii) The induction of an electromotive force in a portion of the magnetic field, and
 - (iii) The physical changes which occur within the magnetic field.

Dr Shiro Saito of Jikei Medical College, Japan, has been successful in treating cancer tumors of mice with magnetic treatment and believes that this disease in human beings could also be treated similarly.

The above information and other published literature goes to show that Biomagnetism provides an assuring promise for, and satisfies a long-felt need of, proper knowledge of basic physiological processes and their use in therapeutics. Biomagnetism also provides a new system of treatment of various ailments of animals and human beings on a progressive line.

The foregoing information applies to the animated organisms generally. Let us now come to the study of the effect of magnetism on the three categories of plant life, animal life and human life separately, with some details.

Effect of Magnetism on Plant Life

Louis Pasteur discovered in 1862 that the earth's magnetic field exercised a positive effect on the growth of plants. It hastened the growth of all plants. Following is the observation made by Dr Noak, the Director of the Institute for Plant Physiology in Berlin :

“Electrical measurements of the plant body have shown us that, indeed, electric currents influence decisively not only the absorption of water and nutrient salts, but also other life processes, including the division of the cell”.

This is very much similar to the remarks of an Austrian Chemist, Baron Von Reichenbach, after he had experimented with magnets, ten years earlier.

It has been demonstrated by some horticulturists that under the influence of the South pole of a Bar Magnet, green tomatoes ripen much faster than others only a little away from such an influence. The effect of natural and artificial magnetism on seeds, plants and trees is being further studied by the biologists.

In 1960 some Russian scientists found that the seeds sown in the ground with their tips turned towards the south germinated long before the others. In order to further confirm the results, the buds of wheat, maize and pea seeds were put in facing either the north or the south magnetic poles of the earth. The plants with seed buds facing the south magnetic pole grew with such vigour that the correctness of the earlier result was substantiated beyond doubt. Thus certain claims made centuries ago were confirmed. Artificial magnetic fields were also found to exercise the same effect on the growth of plants.

A number of experiments carried out in many countries have produced other promising results, such as plant fertility can be increased, their tissues can be rejuvenated and protection from frost can be provided by the use of magnets. These factors and many others are capable of enriching the subject of gardening and agriculture with entirely new concepts.

It has been found that low density magnetic fields do not harm the seeds in any way. On the other hand, they provide active help in rapid sprouting and growth and ultimately result in better yields. But plants should not be exposed to magnetic influence for longer periods as in such cases the result could be reversed.

Sometimes, the plants under magnetic fields do not show better growth above the earth but they develop deeper with widespread roots under the earth.

Dr Fujiyama of Japan has observed that crops sown under the high voltage power cables showed extraordinary growth and vitality in comparison to the crops sown in other places. They were also found greener than the others.

In the 'Soviet Land' Magazine of October 1970, an article showing the potentialities of magnetised water has been published. It has established that plants irrigated with magnetised water grew 20 to 40 per cent faster than others.

Dr R. S. Thacker of Delhi also has experience of better growth of flower plants through the use of magnetised water. Whenever he felt that some flower plants were drying up, he applied magnetised water to their roots and noticed that only one dose kept them alive for a long time.

Effect of Magnetism on Animal Life.

Dr Harold S. Alexander of North America has observed that if the mice are treated with magnets, they lose malignancy and increase their life span by 45 percent than the untreated ones. This increase in the life span is achieved by exposing the mice to magnetic field for 6 weeks. He is also of the opinion that the magnetic field has effect on the rate of cellular reproduction in animals.

Dr Bhattacharya of Naihati Centre, West Bengal implanted cancer tissues in mice and rabbits. He discovered that after being exposed to magnetic field, the development of cancer in them was controlled and stopped. The cancer tissues were repeatedly implanted in the same mice and rabbits but they were repeatedly controlled by magnetic treatment. It has thus been established that magnetic fields are useful for control of cancer and other types of affections. Moreover, he concluded that the magnets prolonged the lives of these animals.

Experiments have also been made with eggs. Fresh eggs were kept exposed to magnetic fields of small magnets for varying periods ranging from 30 minutes to 5 hours. It was found that the eggs treated for about 30 minutes hatched out one or two days earlier, while eggs exposed to magnetic field

for longer periods did not hatch out earlier but, on the other hand, produced smaller chicks. It shows that longer exposure gave reverse results. In some other experiments, magnets were kept inside the cages of chicks. It was found that chickens instinctively came running to the magnets for getting comfort and strength, but did not stay near the magnets for more than 5 to 7 minutes. The chicks paid no attention to dummy models substituted for the magnets.

The female mice kept in the magnetic field of South Pole suffered lesser pains before the delivery and gave birth with comparative ease than the mice kept in the magnetic field of the North Pole.

A mouse, after a life of one and a quarter year, starts showing signs of old age and dies after a few months. If a mouse, in the period of his old age, is treated with a magnetic field of 3000 or 4000 gauss twice a day for one hour at a time in the morning and in the evening, all its ageing symptoms disappear and it looks only 6 or 8 months old.

A horse-shoe magnet of 3000 gauss was used to control the cancer in the mice. For increasing its life either pole of a 2500-gauss magnet was used.

A dog had a tumour in his brain. He could not walk with its hind legs. The North Pole of a small magnet was tied to the dog's head for five minutes, every morning and evening. This cured the dog of the tumour and he started walking and even running in a week's time.

A Japanese Director of T.I.K.E.I. Medical College successfully treated the cancer tumour of mice with magnetic treatment. He had the faith that similar treatment could benefit human cancer also.

Effect of Magnetism on Human Life.

Dr E.K. Maclean, a New York City Gynaecologist, treats the cases of advanced cancer with an Electromagnetic Acti-

vator. He has achieved remarkable success although he has treated only those cases which were considered hopeless.

Dr Maclean has claimed that cancer cannot exist in a strong magnetic field. If the deadly cancer cannot exist, no other ailment from which a human being can suffer, can exist too.

The high magnetic fields provided by Dr Maclean to his patients, have also produced a pleasant side effect in restoration of pigmentation in the hair of his patients. In a number of cases, the colour of the hair changed from silvery white to the original natural colour.

Dr Maclean has dark brown hair on his head. He is tall and robust and at the age of 64 looks to be of about 45 years. He has been applying a 3600-gauss magnetic field to himself daily for a number of years.

Dr Maclean has succeeded in relieving pains due to any cause by applying magnets.

Almost all human diseases have been successfully treated through magnets in India as well as in other countries. Different cases successfully treated with magnets have been quoted in another chapter of this book.

Not only magnets but even magnetised water has been found to have very favourably acted upon the human diseases and has worked as a beneficial medicine in many cases. Patients with stones in kidney and gall bladder were especially treated by magnetised water in a Leningrad Clinic in Russia and it helped to wash out the salts and stones from their organisms. The magnetised water has special effect on digestive, nervous and urinary systems of man.

Dr Bhattacharya has quoted wonderful effects of magnets in his book "Magnet and Magnetic Fields". He narrates a very interesting fact. He once visited a factory manufacturing magnets of all sizes and powers. The senior worker in the

factory told him that all his married male colleagues had begotten only male children, after their joining the factory. Dr Bhattacharya calls upon the experts to investigate in the matter. The contact with magnets could indeed be a boon to many people not yet blessed with male children.

These are some examples of the effects of magnets on the human beings. These examples prove that magnetotherapy can be equally useful and effective and in some cases even better than other medical systems. Extensive researches should, therefore, be made in this field and this therapy should be developed for the treatment of even the supposedly incurable cases of mal-functioning of the various systems working in the body.



5

Human Magnetism

The whole universe, comprising infinite galaxies of stars, planets and all-pervading cosmic consciousness, is delicately balanced by magnetism. The man being a tiny iota of the macrocosm, also carries similar elements, similar properties and similar qualities as the great universe. He is a tiny universe in his own self. In the whole gamut of evolution, starting from the development of five fundamental elements through the unicellular structures and early plant and animal life upto the present man, the latter shares all the subtle as well as crude forces of the universe. Hence the structure of man must also be balanced by the same magnetism which preserves and keeps together the earth, the other planets and the whole universe.

Human existence may be regarded as a trinary entity consisting of three components, namely, body, mind and soul. Man's mind and his spiritual tendencies indicate the presence of a magnetic force, which varies in intensity and effect depending on the subtlety and purity of the inner self. This statement has been amply verified and proved in the practice of the ancient sages and yogis in India. Since time immemorial, the yogis have been concentrating for the sake of purification and enlightenment of mind and soul through a process of meditation. Their miraculous powers of healing by merely extending a touch or a blessing are too well-known and need no description or explanation. Through constant spiritual practices and attempts at the purification of mind, through high thinking and truthful living, every cell of their body is permeated with subtle magnetic powers, which work upon a sick man by a mere touch or by a spoken word. And they can lead to cure. Innumerable instances of such cures through a pinch of *Vibhuti* (Ash) from the hands of the elevated souls

are cited in many books on religion. In such cases, the 'magnetised' *Vibhuti* works on the diseased body and alleviates the sufferings. Such yogis are but the high power human magnets which attract the sufferers around.

Magnetic Powers of Great Personalities.

The well-known instance of Swami Ramakrishna Paramhansa and his disciple Vivekananda throws considerable light on the magnetic powers of the master. A light touch of Ramakrishna Paramhansa on the body of Vivekananda transmitted such a strong magnetic current into the latter that he had to cry that he could not bear the forceful power and that the whole place seemed revolving.

Similarly, Lakshman, the brother of Shri Rama, created such a strong magnetic field by drawing a line in front of the hut of Sita that the powerful Ravana could not break through it with all his gigantic powers.

To quote another similar instance, we may recall that Guru Nanakdevji was once sitting along with a few of his disciples at the foot of a hill. Suddenly a scoffer on the hill pushed a huge boulder down the hill to crush the resting guru. The guruji almost instantly pointed his hand towards the boulder to stop it and provided a strong magnetic prop to it. And to the wonder of his disciples, the boulder stopped midway on the slope of the hill—an unbelievable phenomenon.

Another instance : Maharshi Dayanandji, Founder of Arya Samaj, was once travelling in Upper Hill areas on a religious mission. He was climbing a high hill. Just then a very strong storm arose. Maharshiji stopped walking, stood firmly and raising his left arm shouted at the storm, "O Storm, I say you must stop now." And the storm stopped immediately. This was one of the feats of the personal magnetic power of the Swamiji.

Let us now consider some instances from the Holy Bible :

- (i) Once a leper came and prayed to Jesus Christ to cure his leprosy. Christ extended his hand and touched him and immediately his leprosy was cleansed.

- (ii) A certain ruler came to Jesus and said "My daughter is even now dead, but come and lay thy hand upon her and she shall live". Jesus arose and followed him to his house. When he saw that his people were crying, he said to them, "Give place, for the maid is not dead, but sleepeth". They laughed him to scorn, but when they gave him way, Jesus went in the house and took her by the hand and the maid got up.
- (iii) Once two blind men followed Jesus Christ crying and saying, "Thou have mercy on us." He touched their eyes, saying "According to your faith, be it unto you". And their eyes were opened.

Many books on religion of different faiths are replete with such instances and go to speak of the manifestation of the amazing magnetic powers exhibited by many great personalities.

It is a custom amongst the Hindus that people touch the feet of the saints, gurus and elderly persons. The latter bless the former by placing their hands on their heads. There is a scientific reason behind such a practice. It helps in imbibing favourable magnetic force of the realised souls and the elders by the minds and bodies of the youngsters, making them pure and strong.

Personal Magnetism

It is noticed that certain persons, men and women, possess a higher dynamic and magnetic personality and people are spontaneously drawn towards them. This is entirely due to the enhanced magnetism in their person. Such extraordinary powers of magnetic attractions are sometimes their inborn natural qualities or divine gifts and sometimes personal achievements resulting from wilful attempts through practice or some exercises. The natural factors that go a long way to give a person magnetic charm could be both outer and inner. Under natural physical factors may be counted attractive features ; clear complexion, and a vital, energetic body ; while total or partial absence of complexes in thought and expression ; one's

healthy sanskaras spontaneously leading to enlightened way of living ; high human values ; and intellectual, artistic and spiritual tendencies and faculties constitute the inner magnetism gifted by God. Deliberate and wilful pursuits for attaining higher mental and spiritual powers would, of course, go a long way in cultivating and developing the inborn attributes and even in creating fresh possibilities.

It is often noticed, in routine dealings, that positive or negative responses and reactions in certain persons are so spontaneous, strong, beyond our grip and sometimes seemingly maniacal that they leave us agape. This phenomenon of human magnetism can only be explained in terms of attraction or repulsion.

From the days of yore, man has tried to examine and understand this phenomenon of human magnetism and substantiate the same with scientific experiments and explanations. The early experiences of man remained limited mainly to some mystic powers and hence the science or the art was restricted to very few persons with spiritual urges and inclinations who could imagine and visualise the awesome cosmic currents to a limited extent. Amongst these, some of the notable persons of European origin in the recent times, are Paracelsus, Mesmer, Gassner, Hall, Freud, and so on.

Mesmer and his Mesmerism

The art of acquiring, arousing, developing and utilising human magnetism was raised to its peak by Dr Mesmer. To perpetuate his name, the art he practised and advocated was named Mesmerism. Mesmerism and hypnotism paved the way for the advanced medical science by utilising them in psychiatry. A short history of the art of development of human magnetism and the allied occult sciences is given below :

Dr Franz Anton Mesmer (1734—1815) was the pioneer of the promotion of the art of human magnetism. Born in Switzerland, he studied medicine in Vienna and developed the convincing idea that a man is influenced by some forces from the other parts of

the universe, which effected him strongly. His doctoral thesis was entitled, 'The Influence of the Planets on the Human Body' which was in accordance with his belief about astral effect.

Dr Mesmer was influenced by the theories taught and advocated by a famous Swiss Alchemist, Physician and Mystic, Phillips Aureolus Paracelsus (1493—1541), who travelled Europe, Asia and Africa for making new discoveries. Paracelsus propounded many new theories and brought a revolutionary change in the minds of the sixteenth Century physicians by declaring that minerals such as iron, mercury and sulphur offered better cures for the sick than the then-used roots, herbs and plants. He believed that the curative powers of minerals lay in the power of their magnetism as they inherited these properties from the heavenly bodies. Thus Paracelsus gave out that a magnet contains medicinal powers and can be used as an effective medicine. He strongly believed that by passing a magnetic force over the diseased organ, cure of various ailments could be brought about through its magnetic power. Mesmer was further influenced by the practice of Father Hall, the Jesuit Professor of Astronomy and court Astronomer to the Empress of Austria, who treated nervous men and women by applying magnets to their bodies as remedial tools. Mesmer had closely watched Hall's work and was greatly struck by the details of responses given by his patients. Deeply inspired, Mesmer decided to take up study of magnets and to use them on his patients. He experienced wonders in their use.

To quote an instance, Mesmer treated the case of a lady, named Franzl Oesterline aged 29 years, by applying magnets. She complained of suffering from periodical spells of severe headache followed by delirium, vomiting associated with paroxysms of rage. No medicine could cure her. Mesmer applied his therapy with three magnets to her body—one over each of her legs and the third on her stomach. As soon as the magnets touched her body, she began to twist her body with pain and convulsions. This condition lasted for a few minutes and thereafter she told Mesmer that she felt as if currents had charged through her body. She was amazed to declare that

her pains had gone while previously the attacks lasted for hours together. Next day she was again struck with the same trouble and Mesmer gave the same magnetic treatment again. This time she remained free from her troubles for a longer period. After a few more treatments, her attack disappeared completely. This gave Mesmer much encouragement and he started using magnets on many patients, for the cure of their diseases and disorders.

Mesmer came in contact with Dr J.J. Gassner, who posed mysterious motions with his hands while staring into the eyes of his patients. Gassner's technique was to achieve the same cure with his touch of fingers as Mesmer got with his magnets. Mesmer thought over the position, searched for an explanation and concluded that the effects he had produced with magnets could be obtained by his hand too. So he discarded his magnets and followed the procedure adopted by Gassner. He achieved great success by this method. The number of his patients so increased that he could not cope with the load of work. Thus his new method of treatment became widely known as Mesmerism. The doctors of the contemporary age, specially of the conventional medicine, could not accept the theory and the art of his mesmerism, yet unhappy, nervous, physically ill men and women used to gather in large number at his mansion as patients for treatment and help.

Dr Samuel Hahnemann (1755—1843), Founder and Master of Homoeopathy, who was a contemporary of Mesmer, confirmed the existence of the dynamic force in mineral magnets after careful experimentation and advocated the use of the two different poles of the magnet. He also confirmed the effectiveness of Animal Magnetism (Mesmerism) and observed that it is a marvellous, priceless gift of God to mankind, by means of which the strong will of a well-intentioned person upon a sick one by contact and even without contact, can bring the vital energy of the healthy mesmeriser endowed with this power into another person dynamically (just as one of the poles of a powerful magnetic rod upon a bar steel)

Magnetism, Psychoanalysis and Psychiatry

Many others followed the practice of Dr Mesmer or contributed their own ideas about the technique of mesmerism and hypnotism. Of these, important ones are Pinel, Charcot, Brever and Freud. Sigmund Freud (1856—1939) qualified as a Doctor in Vienna but abandoned general practice of the conventional medicine and devoted his life entirely to the treatment of nervous diseases. He was the first to stress that thoughts, desires and cravings are sometimes suppressed and locked up in the planes of unconscious and to show that if these conflicts and complexes could be brought to the conscious level, successful treatment could be effected. He observed that the dreams offered opportunity for release of suppressed feelings and provided important clues and sources of psychic treatment for ill-health. He wrote a book "The Interpretation of Dreams", which was published in the year 1900, and explained therein the mysteries of dreams. The conclusion reached and theories propounded in this book made him famous far and wide. The works of the philosophers mentioned above show how discoveries concerning mesmerism, hypnotism and psychoanalysis were made and how they had impact on medicine.

The medicos never gave recognition to mesmerism and hypnotism, perhaps for fear of losing their thriving business. They have remained unconvinced of these mystic and seemingly fantastic methods. But the importance of unconscious mind is being increasingly appreciated now by the medical profession and we find more and more physicians adopting psychoanalytical ways of treatment and even becoming whole-time psychiatrists. There are psychiatric services in almost all hospitals, all over the world at present. Simultaneously, more and more physicians are also recognising the effect of magnetism in the treatment of patients and magnetotherapy is gaining ground in many advanced countries of the world, namely, America, Russia, Japan, Denmark, Norway, Switzerland and the United Kingdom. In India also, a number of physicians are doing good service to the sick community by the use of magnets as described in subsequent chapters.

Human Body—An Automatic Machine With Magnetic Properties

The human body is a very complicated and wonderfully automatic machinery and its internal functioning is like that of an electric machine. The brain is the controlling switch-board for the whole body mechanism. The nervous system as well as the other systems working in the body are regulated through different controlling centres in the brain. In the circulatory system, the heart works as an electrical generator, supplying energy to the entire body through circulation of blood. Thus the brain and the heart are the most important parts of the human machinery. Let us, therefore, make specific study regarding the functions of these two important organs.

Human Brain and its Functions

The human brain (Latin—Cerebrum, Greek—Encephalon) is a highly organised apparatus. It is a wonderfully intelligent, active and natural centre that controls the functioning of the organs of vision, hearing and speech as well as the motor and sensory nerves. The brain acting through nerves, controls the muscles all over, including those of the face, joints, and neck as well as vagus which stretches into the heart, lungs, intestines, kidneys, liver and spleen. The brain is the centre that receives, digests and gives meaning to man's experiences, initiates and regulates thoughts, emotions and actions whether of conscious or of unconscious origin. The machinery that holds 'MIND' is responsible for our joys, delights, laughter, smile, dancing and singing as well as for our sorrows, griefs, despondency, lamentations, fears, terrors, etc.

The brain consists of nearly 10 billion nerve cells or neurons. Each neuron has a white, thread-like fibre extending from either end and each such fibre inter-connects multiples of fibres from one or more other nerve cells. Sensations are conveyed to the brain along tiny nerve fibres and when they reach the brain, certain electrical impulses are caused by means of which messages are sent to the limbs. These are all electrical effects.

The brain shows not only evidence of electrical activity going on within but also generates small currents which cause 'Brain Waves'. These waves may normally appear at a frequency of about 10 per second, but they often vary in their frequency and size. This variation differs from man to man. In fact, each individual differs in the pattern of his brain waves. The waves transmitted direct to the hands cause a distinctive difference in handwritings.

The force that up-keeps the functioning of the machine works like electricity. In a man, whether asleep or awake, sane or insane, an average adult-size brain generates and operates about 20 Watts of electric energy. The source of the electricity is the individual nerve cells, each of which is in effect a tiny dynamo. From a chemical fuel of glucose and hydrogen, the cell generates within itself an electric charge, and when the charge exceeds a certain level, the cell discharges. As a rule, the greater the stimulus (from danger, emotions, etc.), the greater the rate of charge and discharge. If more adjoining cells fire, the result is a sensation, a pain, a stimulant thought or a feeling of a specific kind.

The nervous system, through which outward sensations are carried to the mind, is so mysteriously built that if we could look inside this system, it would appear like crowded highways, in big cities, especially on the days of week ends.

Electro-shock Therapy, which generally passes 100 to 200 volts of AC current through a patient's head for a mere instant, has been a great help to psychiatrists in treating certain varieties of mental disorders, especially deep depression. The elec-

troencephalograph (EEG) by means of highly sensitive receivers held against the scalp, and radio tubes, which amplify the faint impulses they pick up, makes it possible to record the electrical activity going on in the various parts of the brain. In taking an electroencephalograph, electrodes are applied to the skin of the various parts of the outer head. The resultant complex curve (EEG) of a human being shows various rhythms. The character of these rhythms varies with the functional state of the brain, namely, rest, activity, sleep, etc., and with certain diseases, namely, brain tumours, cerebral haemorrhages, epilepsy, etc. Thus an EEG is not only a method of determining the functional state of nerve cells of the brain but also helps to establish the character of disease in some cases.

The complex structure of the brain normally weighs about 1300 grams in an adult.

The functions of the brain, according to Ayurveda, can be summarized as follows :

- (1) It is a place of *Atma* (Soul)
- (2) The centre of *chetana* (consciousness)
- (3) The seat of *panchendriyam* (special senses)
- (4) Store house of *Buddhi*, *medha* (intellect)
- (5) The seat of *chitta* (consciousness)
- (6) Store house of *smriti* (memory)
- (7) Centre of *jiwana* (life)
- (8) Regulator of *nidra* (sleep)
- (9) Seat of *Rajas* (emotion, passion)
- (10) Centre of *Snayu* (nerve centre).

Human Heart and its Functions

Now let us study the make up of the heart (Cor or Cardia). The heart is made up of thousands of muscles which may be taken as the composing elements. It consists of two complex systems of cells—one constituting the auricles and the other ventricles—which are again divided into two parts each. The details of the structure of heart have been given in a subsequent chapter. Here we may concern ourselves with the mechanical and electrical side of its working. Taking a graph of the func-

tioning of the heart is technically called Electrocardiography (ECG). In taking an electrocardiogram each chamber is considered separately. Each mechanical contraction, auricular or ventricular, is associated with two electrical processes. The first is depolarisation, during which process the electrical charges on the surface of the muscle cell change from positive to negative; the second is repolarisation, which follows the first and results in the return to the resting state and replacement of the positive surface charges. Depolarisation is a rapid process whereas repolarisation is slow.

Muscular activity of the heart is associated with electrical activity. It is the electrical phenomenon of the heart muscles which produces the electrocardiogram. No current is recorded unless contraction of the heart muscle occurs, with its associated change in the membrane permeability.

The electrical activity of each element of the heart can be measured by a vector—a force which may be represented by magnitude, direction and sense. The sum total of vectors may be considered to be the resultant vector of the electrical activity in the entire heart.

The heart generates electrical energy and breathing has a close connection with the beating of the heart. If the breathing could be controlled, the action of the heart too could be controlled, and by allowing periodical rest to the ever-acting heart through the art of control over breathing, life could be prolonged indefinitely. The way to slow down the process of the electrical discharge and subsequent decay of the body is to bring about a change in the process of quick metabolism. The practice of yoga teaches this art. It is quite well-known that yogis in India generally go to the Himalayas. Sometimes they fall into trance, suspend all animation, for some indefinite periods, remain motionless as if at complete rest and recharge their discharged batteries. Then after some time, they revive themselves and thus defy the ravages of time.

To make a more serious study of the action of the heart, we may refer to the innumerable positions which the heart may

assume as demonstrated by Ashmon's description of 45 different Electrocardiographic positions. For clinical purposes, however, only the following six positions of the heart may be noted :

- (1) Horizontal position,
- (2) Semi-horizontal position,
- (3) Intermediate position,
- (4) Semi-vertical position,
- (5) Vertical position, and
- (6) Indeterminable position.

The blood circulatory system originating from the heart is also a very complicated mechanism. The heart is a strong and tough muscular compact located at the mid centre in the body. It may, however, have a break-down like all other machinery. There may be many reasons for the break-down of the mechanism of the heart or its constituents. When any part of the heart machinery is impaired, the part of the body affected does not receive the blood supply it needs and is damaged. The damage may occur in heart itself or in any other related part of the machinery, namely, brain, lungs, kidneys, limbs or skin.

The chemicals of which the body is comprised, namely, carbon, nitrogen, oxygen, phosphorus, etc , combine to form a perfect electric battery, and the food we eat enables it to charge itself. The body too, therefore, exhibits its electrical responses.

The electrical potential of the stomach varies when it goes empty and becomes full, in sickness and in health.

It has been observed that when blood sugar runs low, electrical changes take place in the brain. Normally, recording of the waves reads from 8 to 10 cycles a second, but when the concentration of sugar in blood is lowered, this rate drops to 5 or 6 cycles per second.

The electrical activity functioning in the system of a living human being has the capacity to generate electricity within

itself for its full requirement. The human body may, therefore, be taken as an electrical battery. It is capable of emanating electromagnetic waves at the rate of 80 million cycles per second, which is beyond the perception of our visual capacity. Every human body is constantly discharging static emanations which may be taken to represent either electricity or magnetism. To quote an instance, every human being can act as an aerial to receive powerful wireless signals by putting one's hand on the aerial socket.

A battery needs chemicals for its composition · we need food and drinks to work as battery. By means of some mysterious alchemy, these chemicals generate the electric current that replenishes the battery.

Spiritual powers cannot exist in the presence of unholy things. Therefore, unholy desires, wrong thinking and faulty living can destroy the means of re-generation and do a great harm to ourselves. Usually, ill health and sometimes even death is caused by demolition and disintegration of the cells consequent upon faulty energy. When faulty energy is put into action, it turns things wrong towards evil thinking, opposing good thoughts.

There is a common belief that electricity is the cause of life. Innumerable experiments have been conducted and electrical fields have been found to exist in the most elementary form of embryo. It has accordingly been proved that the body of every human being contains some element of electricity and some properties of associated magnetism right from the beginning to the end of life.

The use of magnet in the diseases connected with the brain and the heart has been dealt with separately in a relevant chapter.

Role of Blood in Human Body

The scope of this treatise is to study the therapeutic effects of magnetic power on human ailments. The magnetic force works on the human body through the circulatory system. Hence the knowledge of the functions of the blood, the heart and the circulatory system are very important for this method of treatment. Let us, therefore, note some details about them before we proceed to discuss the principles, methods and technology of the magnetic treatment.

Composition of Blood

The blood is a fluid that circulates through the heart, arteries, capillaries and veins carrying nourishment and oxygen to the tissues of the body and taking away waste matter and carbon dioxide from them.

The human blood is composed mostly of a fluid part called plasma in which red corpuscles, white corpuscles and platelets are suspended. Blood consists of 78 percent of such fluid and 22 percent of solids. The details of the constituents of blood are as follows :

Human Blood	{	Water fluid	78%
		Solids	22%

The break-up of the solids is as under :

Proteins	=18.5 percent
Salts	=1.5 percent
(inorganic)	
Lipids	=1.4 percent
(Fats)	
Glucose	=0.1 percent
Waste products	=0.5 percent

- A. Cells (i) Red blood corpuscles (Erythrocytes)
 45 to 50 lacs per cubic millimetre
 (ii) White blood corpuscles (Leucocytes)
 5,000 to 10,000 per cubic millimetre
 (iii) Platelets (Thrombocytes)
 2 lacs to 5 lacs per cubic millimetre

All these cells are very minute, remain floating about in the liquid and are visible only under the microscope.

B. Fluid Plasma—This is comprised of the following ingredients :

- (1) Water—(90-92 percent of total fluid),
- (2) Gases —Oxygen, carbon dioxide, nitrogen,
- (3) Foods —Carbohydrates (Glucose), fat (fatty acids),
 Protein (aminoacids)
- (4) Blood Proteins—Serum albumin, serum globulin,
 fibrinogen
- (5) Salts— (i) Chlorides of sodium
 (ii) Bicarbonates of calcium
 (iii) Sulphates of potassium
 (iv) Phosphates of magnesium
- (6) Protective substances—Agglutinin, antitoxin, bacterioly-
 sins, opsonins
- (7) Autacoids—Internal secretions from ductless glands
- (8) Waste—Urea, uric acid, creatinine, xanthine, hypoxan-
 thine, gaunine, adenine, and carnine.

The blood is a red, non-transparent, nutritive fluid and has a peculiar odour. Arterial blood is bright red or scarlet and the venous blood is dark red or crimson. It is of alkaline reaction and is salty in taste. Its specific gravity is 1050 to 1060. The body of a healthy adult contains about 5-6 litres of blood, which weighs about one-thirteenth or one-fourteenth of the total body weight.

The red blood cells (erythrocytes) contain a protein pigment, called Haemoglobin, which provides red colour to the blood. Iron is one of the main constituents of the haemoglobin. Haemoglobin readily unites with oxygen and just as readily gives it up. When blood in lungs gets saturated with oxygen, all the oxygen combines with haemoglobin of the red cells, but when the blood passes into the distant organs where oxygen has already been used up by the cells, the haemoglobin gives up its oxygen to the cells. The oxygen content in a human adult averages from 12 to 17 percent (12-17 grams of haemoglobin in 100 grams of blood). The red blood cells are so small that a line of 3000 of them would fall a little short of 25 mm in length. The human body contains about 25×10^{12} (25,000,000,000,000) red cells.

The white blood cells (leucocytes) vary in size, are actively mobile and change their numbers and shapes. They perform a protective function. They engulf and destroy bacteria and discharge enzymes and other substances into the blood plasma, which help to fight the infectious agents that might have entered the organism.

The Platelets (thrombocytes) are very small and irregularly shaped structures. They contain a substance called 'Thrombokinese' which participates in blood clotting.

The red blood cells as well as the white cells die and disintegrate in blood. New corpuscles are continually being produced by bone marrow in the organism to replace the dead ones. The rate of their death and reproduction is estimated to be about 10,00,000 a second. There are about 500 to 800 red corpuscles for each white cell. When the number of red blood cells falls too short or the red cells do not contain enough of haemoglobin, the body fails to procure proper amount of oxygen and to maintain its level of energy. This causes diseases like anaemia. Since haemoglobin is a protein substance, foods rich in protein are essentially needed to balance our daily diet.

The blood plasma is a viscous, lightly yellowish, protein fluid. The cellular elements of the blood are suspended in this plasma. It consists of 90-92 percent water and 8-10 percent organic and inorganic substances. The plasma is closely linked with the tissue fluids of the organism. It contains a special substance called 'Antibodies,' which play a protective role. Some of them are able to neutralise toxins, others destroy the bacterial growth which might have found a way into the organism.

Blood Circulation

The process of continuous flow of blood in the organism is called the system of blood circulation. All the organs of a living human body are in close communication with each other through the circulation of blood. The heart pumps the blood so as to reach even the distant extremity of the body. The activity of the system of circulation is modified by the nervous and respiratory systems.

The blood flows through the blood vessels, which are elastic tubes of varying diameters. The blood vessels too differ among themselves in structure and in function. The blood flows, so to say, through a sealed circuit of vessels about 1,12,000 kilometres in overall length, most of which is occupied by capillaries. The blood travels through the arteries at a speed of more than 65 kilometres an hour, but it takes a minute for the blood to go through an inch of capillary tube.

There are three main types of blood vessels, namely, Arteries, Capillaries and Veins.

Arteries are vessels through which the blood flows from the heart to various organs. They have comparatively thick walls made of three coats. They divide into smaller branches, called Arterioles, which again divide into still smaller vessels called capillaries.

Capillaries are minute blood vessels visible only under a microscope. There are several hundreds of capillaries per square millimetre of tissue of the organs. It is through these

minute capillaries that the blood, oxygen and chemicals reach the smallest and the remotest part of the body and waste products are collected from there. As the blood flows through a capillary, the arterial blood changes into venous blood, which drains off into the veins.

Veins are vessels through which the flow of blood is carried back from the organs to the heart. Like those of the arteries, veins too have walls composed of three coats. Veins contain valves which open in the direction of the blood flow. This helps the blood in the veins to flow in the direction of the heart.

Clotting of Blood

The blood possesses the property to clot, that is, to change into a thickened mass of blood. Normally, the blood flows through the blood vessels freely but sometimes blood clots are formed and they obstruct its easy flow. Such a clotting or sudden blocking of passage is technically called thrombosis (formation of thrombi). The blood usually clots after escaping from the blood vessels. The human blood escaping from the organism clots within 3 to 4 minutes.

Sometimes, the arteries are clogged with a deposit of fat, calcium or cholesterol. This also can obstruct the flow in the smaller arteries. Then sometimes the inner coating of the vessel gets roughened and if the blood clings, clots may be formed building up obstruction in the blood stream or forming a blockade in the vessels of the heart or brain. If a clot gets into any of the arteries carrying blood into the brain and cuts off the oxygen supply, the brain cells die. If the victim escapes, the damage to the particular part of the brain may cause rupture, cerebral haemorrhage or paralysis. However, this property of clotting has some advantages too. The clot stops the opening of an injured vessel and further bleeding is stopped. If clots did not form when blood flowed out of a vessel, the slightest wound would cause bleeding without stoppage.

Sometimes, progressive degeneration spreads to the muscular coat and the elastic tissue is replaced by fibrous tissue,

and sometimes deposits of calcium salts are formed in a way that the flexible tube becomes an intractable pipe. This is called hardening of the arteries or arteriosclerosis. When this hardening or thickening affects the main arteries, additional demands are made on the heart and consequently the heart has to increase its pressure. The additional effort of the heart to maintain blood circulation is called High Blood Pressure. Serious high blood pressure or systematic hypertension may be due to some other causes as well.

Heart (Cor or Cardia)

The heart is a hollow, muscular, cone-shaped organ located in the anterior cavity of chest. The greater part of the heart is situated in the left half of the thorax. The heart is about the size of an adult person's fist and weighs about 300 grams. The wall of the heart consists of three coats, inner or endocardium, middle or myocardium and outer or epicardium. The entire heart is enveloped in membranous sac called pericardium.

The human heart has four chambers. A longitudinal partition divides it into right and left halves. Venous blood flows through the right half and the arterial blood through the left. Each half of the heart consists of two chambers, the upper called the Atrium and the lower called the Ventricle. The wall of each Atrium forms a projection in front called an auricle.

Vessels entering and leaving the heart—The two largest veins, which carry the venous blood from all parts of the body empty into the right atrium. The largest arterial vessel, the Aorta, which carries arterial blood for the entire organism, arises from the left ventricle. The heart is supplied with blood through the right and left coronary arteries, which arise from the aorta.

The heart is a very strong and tough bundle of muscles and works very hard all the time. It has to be so as it is to pump blood for a whole lifetime, without stopping for repairs. It is, therefore, necessary that it should receive an uninterrupted

supply of oxygen and nutrients. In the course of an average life time, the heart beats 1250 million times. Even the toughest metallic machinery could not endure if operated incessantly for, say, seventy years.

Action of Heart

The work of the heart consists of rhythmic contractions and relaxations of the atria and ventricles. You can get a rough idea of the action of the heart if you clench your fist, open it, and then clench and open it again. If you open and close your fist, again and again, at a rate of a little more than once every second (as the heart beats), your muscles will feel tired after a couple of minutes. Our heart is, however, contracting and dilating at an average rate of 72 times a minute, which adds up to over 1,00,000 times a day or nearby 40,000,000 times a year. The only rest the heart muscles get is the fraction of a second pause between beats.

A contraction of the heart muscle that squeezes out the blood from the chamber is called a Systole, and the subsequent relaxation of the heart is called a Diastole. The contractions and relaxations of the heart take place in a definite order. There are three phases of cardioactivity :

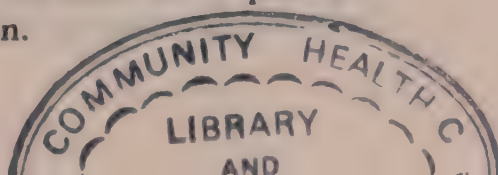
Phase I.—Simultaneous contraction of both atria, with the blood passing from the atria into the ventricles,

Phase II.—Simultaneous contraction of both ventricles, the blood is forced into the aorta and the pulmonary trunk, while the atria relax, and

Phase III.—The ventricles relax and the atria are also relaxed. This is called the general pause. During this pause, blood enters the atria from the venous vessels.

Thus the systole of the atria is followed by the systole of the ventricles and then by a pause. All these three phases constitute a single cycle of the heart-action.

02668



Atrial systole lasts about 0.1 second, ventricle systole 0.3 second and the pause 0.4 second, Thus one complete cycle of the heart action takes about 0.8 second, so that there are about 75 contractions of the heart per minute. At rest, the number of contractions ranges from 60 to 80 per minute but the rate and intensity of the cardiac contractions vary with environmental conditions, namely, physical exertion, etc. The heart rate also depends on age. In the new-born, the heart contracts about 140 times per minute, and in old age the rate increases upto 90-95 per minute.

Diseases of Heart

The cases of the diseases of heart are increasing, in the highly developed countries, at an alarming rate. In our country also, the rate of the diseases of heart is on the increase. Obviously, it has a lot to do with the pace of life we lead and the stresses and strains of modern life. In the present age of rapidity, resistance and tensions, which we call modern living, we are surely supercharging the engine of our internal machinery, namely, the heart.

The term 'heart disease' applies to a number of different illnesses that affect the circulatory system. It points more to cardiovascular disease—cardio (heart) and vascular (blood vessel) or the disease of circulatory system.

Some people are of the opinion that most of the cardiac ailments result from excessive smoking, emotional strain, high blood pressure, diabetes, fats, obesity, excessive use of salt and even excess of sugar. A certain degeneration in the circulatory system gradually takes place as people grow old and the arteries are hardened as a result of the build-up of fatty substances on the inner walls of the blood vessels. This naturally reduces the speed of flow and passage of blood to and from the heart, causing cardiac trouble.

Usually by a 'heart attack' is meant what is called coronary thrombosis (myocardial infarction). It is a sudden blocking of one of the arteries that supply the heart muscle with blood. A clogged artery may be closed by a blood clot (thrombus) and

the part of the heart muscle fed by that artery may deteriorate or die from lack of blood.

Another common complaint is 'Angina Pectoris'. It is an uncomfortable sensation of pressure, tightness or pain usually in the front of chest. It indicates that the heart muscles are not getting enough oxygen through its blood supply. An attack may be the result of over exertion, excitement or over-eating. The pain of Angina starts over the breast bone and radiates down the inner side of the left arm, sometimes down both arms, and into the middle fingers. Every time a person with this condition exerts himself in an effort for which the heart arteries cannot supply sufficient blood, this pain warns him and compels him to stop further exertion. This happens over and over again until he learns to lead his life in a lower gear. Nature gives this warning to pull him up to lead a regulated life before his heart muscle is dangerously affected or causes shortage of oxygen.

The human blood is divided into four groups. Hence, for the purpose of transfusion, the blood of donors and recipients is matched before transfusion and only compatible blood is transfused to the bodies of the recipients.

Blood Pressure

Normally, the blood pressure is constant ; and if it varies, the variation is negligible.

Changes in blood pressure depend on two basic factors, namely : (i) The force with which the blood is ejected from the heart by the contraction of its muscles, and (ii) the resistance of the walls of the blood vessels, which the blood has to overcome as it circulates in the body.

The blood pressure is usually measured in the brachial artery. In a healthy young adult (20-40 years) of our country, the maximal pressure in this artery is 110-130 mm and the minimal is 60-80 mm. In children, the blood pressure is lower but, in elderly people, the blood pressure slightly increases.

During physical work also, blood pressure rises but it drops during rest and sleep.

In diseases associated with disturbances in blood circulation, the blood pressure is altered. In some cases, it is elevated and is called hypertension and in some others it is lowered, when it is called hypotension. Hypotension may be caused by a decrease in the number and intensity of the cardiac contractions, dilation of the arteries and considerable loss of blood. A big drop in blood pressure leads to serious disturbances in a human being.

Functions of Blood

The main functions of blood in the body are as follows :

- (1) The blood streams carry nutrients to the tissues of all organs. The nutrients are absorbed into the blood from the small intestine.
- (2) The blood carries the waste matter away and throws it out of body. The waste products are eliminated from the blood through the excretory organs.
- (3) The blood plays a vital role in respiration. It delivers oxygen to the tissues of the organs. Oxygen enters the blood through the lungs.
- (4) The blood removes the carbon dioxide from the system. Carbon dioxide is eliminated from the blood mainly through the lungs.
- (5) The blood regulates the activities of the natural fluids of various parts of the body. It transports various hormones round the organism. Some of these substances stimulate, while others initiate the work of organs.
- (6) The blood has a protective action. It contains cells which possess special products called Antibodies, which play a protective role.

- (7) The blood distributes heat within the organism and maintains a constant body temperature. The heat is transported by blood from warmer parts of the body to the colder parts.
- (8) The blood gives off the excess of heat into the external environments and the organism, therefore, does not become overheated.
- (9) A part of the blood does not circulate through the blood vessels but is stored in small blood depots, namely, capillaries of the spleen, liver and tissues. In the case of muscular work and blood loss, the blood stored in the small depots is released into the general blood circulation.
- (10) The total amount of blood may temporarily increase after intake of large amount of liquids and absorption of water from the intestines. The excess water is quickly eliminated through the kidneys, while a temporary decrease in blood is sometimes observed by way of bleeding.

If the blood stops circulating, the organism dies.

We have seen here the important functions carried out by blood in our bodies. We shall discuss in the subsequent chapter, how Magnets, when brought in contact with the body, affect the blood and exercise their beneficial influence on all the diseases of the human body, through the blood circulatory system.



How Magnets Affect Human Metabolism

We have seen in the previous chapter that blood plays an important role in the human body. Anything which effects the blood, either favourably or adversely, is sure to have a good or bad effect on our health. Let us now study the mode of influence of magnets on the blood and consequently upon human health and life.

Magnetism is a physical phenomenon as well as a phenomenon closely related to electricity. It is not easy to comprehend a phenomenon like magnetic field theoretically. Hence it may be difficult for those who are specialised in biology and medicine, to fully appreciate this phenomenon but the fact remains that it has its biological effect on human beings.

Different Theories of Biological Effects

Various theories of biological effects of magnetic fields on human beings have been propounded. It is considered that the biological effects of magnetic fields depend on many factors such as flux density, directivity, gradient, area of magnetic field affecting the living body, duration of its action, etc. The effects of magnetic fields on the living body are ascribed to several factors, such as :

- (i) the possible occurrence of the impediment in the microbial movement and protoplasmic flow resulting from their motion in the direction at right angle with the magnetic field,
- (ii) action against the growth of the young tissue (action against mitose),

- (iii) influence on the human autonomous nervous system,
- (iv) magnetohydrodynamic phenomenon, and
- (v) reciprocal difference in the magnetic susceptibility, etc.

The Most Popular Theory

The most popular theory offered so far is that the effect originates in the molecules containing iron such as haemoglobin and cytochromes. These theories are proposed because of the well known paramagnetic properties of iron. A few of these theories are briefly described below :

(A) (i) Scientists of several countries discovered, in the earlier part of this century, that the process of crystallization in solutions is influenced by magnetic fields. It was proved, on the basis of a large number of experiments, that the magnetic field increased the number of centres of crystallization.

One of the scientists has summarised the effect of magnetic field on liquids as follows :

- (a) A magnetic field increases the number of crystallization centres in a liquid,
- (b) the increase in the amount of crystallization centres is directly proportional to the strength of the magnetic field,
- (c) in the case of constant field, the number of crystallization centres increases directly with the time of imposition of the magnetic field.

(ii) It was established, as a result of many experiments and experiences, that many physical and chemical properties of water change when it is exposed to the influence of weak magnetic field. The change takes place in its various properties and the changed properties exist for several days.

(iii) It was also noticed that if a vessel containing water is enclosed in a metal cover which can absorb the electromagnetic waves, it immediately effects the speed of sedimentation of tiny particles in water.

The blood is also a fluid and is, therefore, similarly influenced by magnetic fields and its properties also undergo a change when it is brought in contact with magnets.

(B) When a fluid in which salt is dissolved comes in contact with magnetic flux, the physical properties of the fluid change. As blood is a fluid matter and many inorganic salts form its important constituents, the properties of blood change under magnetic flux. This changed blood coursing through the whole body exerts beneficial influence on the entire body and relieves or prevents many ailments.

(C) When a magnet is brought in contact with the human body, a weak electric current is generated in the blood circulating in the body. When the weak current runs through the blood, the quantity of ions is increased and the ionised blood circulates throughout the body, with good effect on the body as a whole.

Action of Magnetic Flux on Blood

The clinical studies conducted by many medical institutions have shown that the magnetic flux promotes health and provides energy by eliminating disorders in the various systems, stimulating blood circulation and building new cells to rejuvenate the tissues of the body. The magnetic flux greatly affects magnetic substances like iron and oxygen with the result that the haemoglobin in the blood vessels moves actively to effect the activated circulation. The treatment with magnets increases the number of new sound blood corpuscles. The ratio between the red blood corpuscles and the white blood corpuscles is not disturbed but inactive and decayed blood corpuscles are appropriately strengthened and more fresh vital blood is pumped into the system. As magnetic power promotes better breathing action also, it results in prevention and cure of the diseases connected with circulatory system. According

to a clinical study, high blood pressure comes down by 20-30 mm Hg by using magnets for a week or two.

Action on Hormone Secretion

The function of internal secretion of hormones is remarkably improved by the joint effect of internal heat of the body and the external heat caused by the magnet. The transmission of blood is done rapidly against this heat and the capillary vessels, which spread like a net around hormone secretion tubes, expand to a large extent and by concentrating oxygen, they gradually supply hormone secretion into the tubes. Meanwhile, the hormone secretion tubes get properly warm and their function becomes active by supply of excess oxygen. Consequently, all diseases caused by the lack of hormone secretion are favourably affected and improved by the constant use of magnets. While the magnetic flux penetrates the tissues, it works to regulate hormone secretion which preserves youth by providing energy and by normalising the functions of the internal organs.

Reformation and Resuscitation of Cells

The remarkable feature of the power of magnets is seen in the matter of reformation, resuscitation and promotion of the growth of cells. The magnetic flux generates a comfortable warm feeling in the body. The warmth strengthens the function of the cells and cures spasms and inflammations. When the magnetic flux passes through a tissue, a secondary current is created around the magnetic lines of force in the tissue cells which ionises the protoplasm and rejuvenates the tissues by activating the metabolism. Consequently, remarkable curative effects have been noticed on human body. Chaps, chilblains and incised wounds have healed up promptly through the treatment with magnets.

Acceleration of Self-curative Powers

The human body itself cures most of its own diseases. An efficient doctor or an excellent remedy only assists the natural curative powers of the body. The magnetic flux is also a natural healing power and it invigorates the self-healing property of the human body. Strong magnetic flux penetrates

deeply into muscles, fatty tissues and bones to give intense relief to the nerves. It enables the body to resist diseases and to accelerate recovery from sickness and fatigue. The collective therapeutic effect of magnets cures diseases by eliminating the constitutional weakness. Thus the curative powers of the magnet do not operate individually or independently but work together and alround healing is effected, namely of blood, nerves, hormones, etc.

The use of magnet helps to improve, in a short period, even inveterate diseases. Many cases, which have defied other systems of treatment, have responded satisfactorily to the treatment through magnets. A large number of disorders like appendicitis, asthma, backache, chronic arthritis, orchitis, cramps, eczema, headaches, high blood pressure, injuries, mental fatigue, pains of all kinds, prostate enlargement, rheumatism, severe toothache, sleeplessness, stiffness of joints and swellings of different parts of body have already been effectively cured through this system of treatment. The magnet has a remarkably good effect on the toothache, other pains, swellings, stiffness of joints and muscles and high blood pressure which are detailed elsewhere in this book. It also has a good effect on the prevention of, and improvement in, the diseases of the heart, kidneys and liver.

Summary of Beneficial Influence of Magnets

The beneficial influence of magnets may be summed up as follows :

1. When a magnet is applied to the human body, magnetic waves pass through the tissues and secondary currents are induced. When these currents clash with magnetic waves, they produce impacting heats on the electrons in the body cells. The impacting heats are very effective to reduce pains and swellings in the muscles, etc.
2. Movement of haemoglobin in blood vessels is accelerated and calcium and cholesterol deposits in blood are decreased. Even the other unwanted materials adhered

to the inner side of blood vessels, which provoke High Blood Pressure, are decreased and made to vanish. The blood is cleansed and circulation is increased. The activity of the heart eases and fatigue and pains disappear.

3. Functions of autonomic nerves are normalised so that the internal organs controlled by them regain their proper function.
4. Secretion of hormones is promoted with the result that the skin gains lustre, youth is preserved and all ailments due to lack of hormone secretion are relieved and cured.
5. Blood and lymph circulations are activated and, therefore, all nutritions are easily and efficiently carried to every cell of the body. This helps in promoting general metabolism.
6. Magnetic waves penetrate the skin, fatty tissues and bones invigorating the organs. The result is greatly enhanced resistance to disease.
7. The magnetic flux promotes health and provides energy by eliminating disorders in, and stimulating the functions of, the various systems of the body, namely, the circulatory, digestive, nervous and urinary.
8. The magnetic treatment works by reforming, reviving and promoting the growth of cells, rejuvenating the tissues of the body, strengthening the decayed and inactive corpuscles and increasing the number of new sound blood corpuscles.
9. Magnets have exceptional curative effects on certain complaints like toothache, stiffness of shoulders and other joints, pains and swellings, high blood pressure as well as on chaps, chilblains and wounds.

10. The self-curative faculty (Homeostasis) of the body is improved and strengthened which ensures all the benefits mentioned above. One feels in full vigour and can walk and work, more and more, without feeling tired.
11. The magnetic treatment has the effect of energising all the systems of the body. The effect remains in the body for several hours after each sitting with the magnets. A continued treatment for a week or two, once daily for about 10 minutes, takes the patient from morbid condition to normal state of health. in general routine cases.

Note : As magnets work on human metabolism mainly through the circulation of blood which contains haemoglobin and iron, it will be relevant to state the position of iron contained in the body. The adult human body contains 4 to 5 grams of iron and it can be traced in all parts of body. Most of it is present in blood as a component of haemoglobin and a smaller amount remains in muscles and is called myoglobin. The function of these components is to carry oxygen from the lungs to muscles and other parts. Without iron, there would be no energy ; and without energy, the beating of the heart and respiration would stop. . Thus we see that iron is very essential for our life and magnet influences iron radically and magnificently.



Magnet and its Composition

Magnets may be broadly divided into two groups, namely, Natural magnets and Artificial magnets.

Natural magnets represent the substances created by nature, which have the property of attraction. The biggest natural magnet is the earth itself as shown in an earlier chapter. Some other natural magnets are Iron ore, or magnetite and other iron-pyrites etc which contain iron and oxygen and also have the property of attracting iron filings. The force of these natural magnets remains the same and cannot be increased or decreased according to one's wish or requirement. Hence the natural magnets are of very restricted use.

Magnetism was, however, believed to have great power and potentialities. Man has, therefore, made his own magnets and has designed them in many ways to suit his requirements. These man-made magnets are called *Artificial Magnets*. The artificial magnets can be made to have different degrees of magnetism and can be manufactured in various designs. These can, therefore, be used for many purposes and are utilised in innumerable items of general nature as well as in cottage and heavy industries.

Electromagnets and Permanent Magnets

The artificial magnets are broadly divided into two main categories, namely, Electromagnets and Permanent magnets.

The electromagnets are magnets which work when electricity is applied to them and have no power of their own to act without electricity. Electromagnets are used in electric machines, generators and motors and are utilised in various

industries. These are used for loading and unloading iron-equipment on ships, for magnetic cranes, and magnetic brakes in trams. These are also used for separating iron scraps from other non-magnetic substances, as well as in amplifiers, armatures, bells, buzzers, circuit breakers, contact rectifiers, electronics, loud speakers, reed relays, radios, storage devices, telecommunications, transformers, etc. Electromagnets are also used by surgeons for extracting iron splinters from eyeballs and other parts of body.

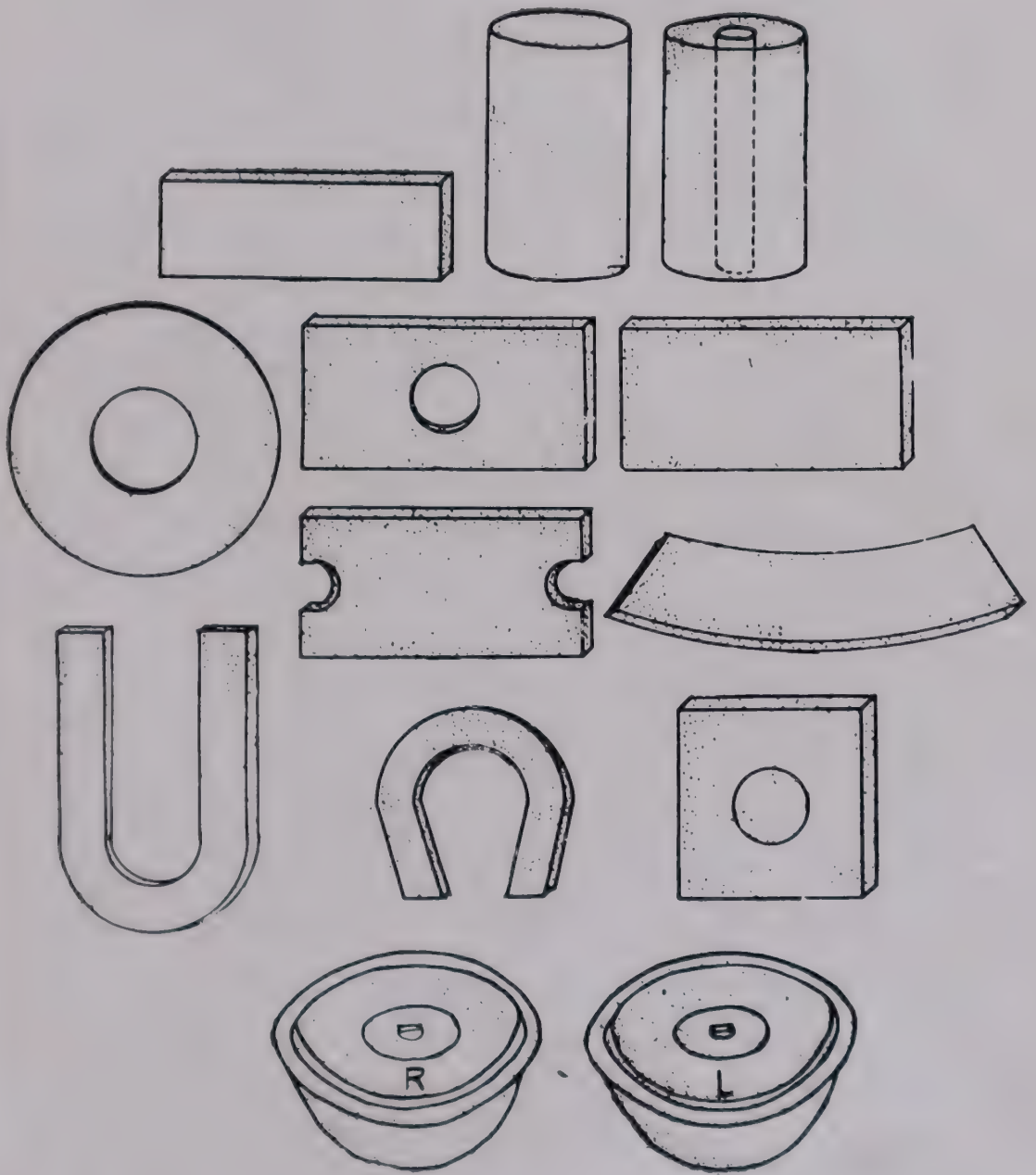
Permanent magnets, as their name shows, remain permanently magnetised once they are charged and are used without electricity. They do not lose their magnetism if they are properly preserved with keepers attached to them. If not stocked with keepers, these may, however, lose some force of their magnetism, in due course of time—say in some years, but these can be remagnetised and the decreased force of their strength restored to them.

Different Shapes, Sizes, Designs and Strength

The permanent magnets are made of different alloys and are of different shapes, sizes, and designs. These also have different magnetic strength. The strength of the magnets depends upon the proportion, quantity and quality of the different metallic alloys of which they are made.

The most commonly manufactured and used shapes and designs of the permanent magnets are given below. The sizes differ according to the requirements and the purposes for which they are made.

1. Bar Magnets
2. Cylindrical solid magnet
3. Cylindrical magnets with holes
4. Ring magnets
5. Rectangular magnets with holes and without holes.
6. Chuck magnets
7. Arc or Crescent magnets
8. U-shaped magnets and Horse-shoe magnets.



Magnets of various shapes and sizes

The above shapes are but examples of the magnets which are generally produced by the manufacturing companies. In fact, permanent magnets can be made, with the alloys already in use, according to any given measurements or specifications to suit any purpose.

Generally, permanent magnets are used in industries. In some cases, the magnets are attached to the parts of machinery while in some other cases, they are encased in other metallic covers and are then used. When these are so encased, their magnetic power is increased manyfolds. One example of such magnets is the complete magnetic kit or unit prepared for loud speakers. Such magnetic packages are used in many other kinds of machinery also.

Classification of Magnetic Materials

There is a very wide range of magnetic materials from which permanent magnets may be made. The materials differ in the nature of their elements and their composition. Each of them has its own values, its own characteristics and consequently its own uses.

The most commonly used alloy in the manufacture of permanent magnets is Alnico. This is composed of Aluminium, Nickel, Iron and Cobalt. The last of these four metals, namely cobalt, is costlier than the others and Iron is the cheapest of all. As researches have all along tried to make the magnetic material more stable and economical, Alnico alloy has been divided into several standards. The approximate chemical composition of some standards of Alnico is given below :

Name of metal	General	Alnico II	Alnico III	Alnico V
Al (Aluminium), percent	18	10	12	3
Ni (Nickel), percent	—	20	24	14
Co (Cobalt), percent	12	12	—	24
Cu (Cuprum-copper), percent	6	6	3	3
Fe (Ferrum-iron), percent	64	52	61	51

The different metallic alloys from which magnets are made are called magnetic materials or magnetic substances. The magnetic substances are broadly classified in three main categories, namely :

- (i) Ferromagnetic
- (ii) Paramagnetic and
- (iii) Diamagnetic.

The general characteristics of these substances are as follows :

(i) *Ferromagnetic*. These substances have got very large values of magnetic permeability and are, therefore, capable of high degree of magnetisation. They include the metals which are found to be attracted by magnets or magnetic fields. Such substances are Iron, Steel, Nickel and Cobalt. The difference between the properties of Iron and Steel is that soft iron has far greater retentivity than steel, but has far less coercivity ; in other words, steel retains magnetism for a long time, whereas soft iron loses it. As such soft iron is used in electromagnets and steel is used for permanent magnets.

(ii) *Paramagnetic*. These substances represent the materials which are feebly attracted when placed in a magnetic field. In a non-uniform field, paramagnetic substances will experience an attractive force towards the strongest part of the field. Such substances include Aluminium, Chromium, Copper sulphate, Manganese, Palladium, Platinum, Potassium and Tungsten, etc.

(iii) *Diamagnetic*. These substances are the materials which are not attracted by magnets. They have a tendency to move from stronger to weaker parts of magnetic field and are characterised by negative susceptibility. To this class belong Antimony, Bismuth, Copper, Diamond, Gold, Mercury, Silver, Sulphur, Tin and Zinc.

Gases and liquids are also found to belong to the classes of paramagnetic or diamagnetic substances. Air and oxygen are

found to be paramagnetic while Alcohol, Hydrogen, Nitrogen and water are diamagnetic in their properties.

Permanent alloy magnets are generally used for door latches, fans, filter coils, gramophones, loud speakers, magnetoes, magnetic generators, magnetic separators, meters, radios, scooters, sugar mills, telephones, television receivers, toy-motors, and other novelties.

Ceramic Magnets

Some magnets are also made from synthetic material and are called ceramic magnets. The ceramic or ferrite magnets are manufactured from oxides of Ferric and Barium (or Strontium), with certain doping agents which differ from manufacturer to manufacturer.

Ceramic magnets are used for the purpose of :

- (i) Communications = Loud speakers, microphones (bells, inductors, receivers).
- (ii) Electricals = Cycle dynamos, D. C. (Small) motors, instruments, toy-motors.
- (iii) Electronics = Calculators, computers, tabulators.
- (iv) Transport = Car radios, aerial motors, dynamos for autos, magnetoes for motor cycles and scooters, and
- (v) Misc. = Belts, door latches, filters, magnetic chucks, magnetic games, magnetic separators, novelties, plastic materials and stationery items.

Ceramic or Ferrite magnets have the following distinct advantages :

- (1) Considerable higher coercive force and retention of magnetism for a very long time.

- (2) High stability to demagnetising field and temperature changes.
- (3) About 60 percent weight as compared to metallic magnets.
- (4) Available at lower costs.
- (5) No 'keepers' necessary for long preservation.

A drawback with the ceramic or ferrite magnets, however, is that they are liable to break on falling down. Hence they should be handled with care particularly to avoid chipping of sharp edges or corners.

Magnets of all types—namely electro or permanent, iron-alloy or ceramic—are produced by the manufacturing companies for industrial purposes. There is only one company at Bombay, Messrs Permanent Magnets Ltd. who make Healing Magnets also. The healing magnets are in different shapes and sizes, are coloured Red, are marked N (North) and S (South) and are supplied magnetised. The other magnets supplied by this company as well as other companies for industrial purposes are supplied uncoloured, unmarked and unmagnetised, unless a specific request is made for magnetisation.

Magnetisation and Magnetic Poles

After the magnetic materials are transformed into the required shapes, sizes and designs, the formed pieces have to be magnetised before they can be put to use.

The magnetisation is done by electric current ; and for this purpose, electromagnetising machines are used these days, as they are convenient and powerful. By this magnetisation process, the formed pieces develop North polarity on one end or side and South polarity on the other end or side, in a very short time, namely, seconds.

Established Laws of Magnetism

On the basis of many experiments and experiences, the following main principles or laws of magnetism have been established :

1. **Like poles repel each other and unlike poles attract each other.** This can be experienced by taking two magnets and bringing one pole of one magnet near each of the two poles of the other magnet.
2. **Equality of poles of Magnets.** As the molecules are arranged in lines in the magnetised state of a substance, there are as many like poles on one side of the neutral region as on the other. Both the poles of every magnet are, therefore, opposite to each other and have equal and the same strength. In other words, the pole strength at the two ends of a magnet is always equal in magnitude but opposite in nature.
3. **Inseparability of Poles.** Every bar magnet has two different poles, at its two ends, and so has every other type of magnet. If a bar magnet is actually cut into two parts, each becomes an independent magnet having two opposite poles. If the smaller magnets be subdivided further, still shorter magnets are formed, each having two poles again.
4. **Retention of Magnetisation.** Long bar magnets retain their magnetism longer than short bar magnets, on account of less demagnetising action of the poles on themselves. Horse-shoe magnets and U-shape magnets retain their magnetisation longer than bar magnets. And magnets with enlarged pole pieces forming closed rings encased in round or square metal cases retain their magnetisation still longer and become more powerful.
5. **Demagnetisation and Remagnetisation of Magnets.** When a magnet is subjected to rough handling (such as hammering, heating or twisting), its strength

is impaired, because such treatment partially breaks down the linear arrangement of molecules. Demagnetised magnets can, however, be remagnetised to regain their strength.

6. **Safe custody of Magnets.** In order to avoid the automatic demagnetising effect of the poles, magnets are kept in pairs with two ends of the pieces of soft iron placed across them. These pieces are called 'keepers'. The keepers complete the magnetic circuit and hence there are no free poles to lose their strength.

Power of Magnets

The exact power of magnets can be measured by a magnetometer which is a costly instrument. Hence the power of a magnet is generally estimated by its capacity to lift iron-weight. The more weight a magnet can lift, the more powerful it is considered to be. A child's horse-shoe magnet sold as a toy (which can relieve toothache) is about 300 gauss.

It is said that first of all bar magnets were made. As the poles of a bar magnet are at the extreme ends of the magnet, which are distantly and oppositely placed, the power of the magnet is not very strong. Then U-shape or Horse-shoe magnets were designed so that both the poles may be close to each other. Such magnets are more powerful and can lift more iron-weight. But there is a gap or open space between the two poles of such magnets. In order to improve upon these magnets also, ring magnets or solid cylindrical magnets were made, so that there is no such gap between the two poles. Such magnets are still more powerful and can lift heavier weight.

Various Qualities of a Magnet

Dr A.K. Bhattacharya of Naihati, has stated in his book "Magnet and Magnetic Fields—or Healing by Magnets" that a magnet is a miniature universe as all the forces operating in the universe are seen operating in this little thing also. He has described innumerable qualities and properties of the magnet

and has shown the different properties which each pole of the magnet possesses separately. The qualities appear to have been pointed out keeping in view a bar magnet, but, on principle, they should be true about every other type of magnet too. The qualities can be summarised in a tabular form as follows :

<i>Quality</i>	<i>North pole</i>	<i>South pole</i>	<i>Intervening portion</i>
1. Magnetic	Attraction	Repulsion	Neutral
2. Characteristic	Positive	Negative	Neutral
3. Effect	Cold	Hot	Neutral
4. General	Love	Hatred	Indifference
5. Atomic	Proton	Electron	Neutron
6. Planets	Mercury, Venus, Sun, Mars Moon		Jupiter, Saturn
7. Elements	Earth, Water	Fire	Air, Ether
8. Cosmic colours	Green, Indigo, Orange	Red, Yellow	Blue, Violet
9. <i>Vayus</i>	<i>Prana, Apana</i>	<i>Samana</i>	<i>Udana, Vyana</i>
10. Philosophy	<i>Satta</i>	<i>Rajas</i>	<i>Tamas</i>

The source of permanent energy of a magnet is not clearly known to Science upto now. It is also wonderful how the poles of a magnet, which is a piece of metal without any life, can recognise the friendship or enmity of other poles and adopt infallible behaviour towards them. This shows that the power of recognition inherent in a magnet is divine in character.

It was on account of the concentration of all these qualities in a magnet that many kings and queens and other high dignitaries of the olden times used to wear a magnet on their persons. They believed that wearing a magnet, which had a divine force, maintained vigour of life, arrested ageing, enhanced beauty and saved its wearer from many ailments and troubles.

10

Technique of Application of Magnets

The use of magnets is an aid to nature. The application of magnets works as a medicine and restores the body to its natural state in due course. The treatment through magnets has its effect on body mainly through blood circulatory system and also through other systems, namely, digestive, nervous, respiratory and urinary. It also has its use in geriatrics, gynaeciatrics and pediatrics. There are several methods of application of magnets to the different parts of the body for the treatment of different ailments. The main methods are dealt with in this chapter.

Ancient literature shows that magnets were used for healing purposes in ancient China, Egypt and in other countries. The ancient magnetotherapists could not make out why the magnets failed to show any effect in some cases and even showed adverse effect in some other cases. Experience and experiments since made with application of different poles on different patients have proved that the two poles of the magnet act in different ways when brought in physical contact with human body. The North Pole has a retarding action, controls the bacterial infection and makes ineffective or even kills the cancer cells. It also relieves boils, sores, skin rashes, tumours, etc. The South Pole, on the other hand, radiates energy, gives warmth and strength to the painful part, increases power of resistance, reduces swellings and draws pain out of the body. The no-effects or adverse-effects noticed by some physicians of ancient times might have been due to the application of magnets of low strength or applying them for shorter periods or using incorrect poles.

The magnetic treatment is generally carried out in two ways, (i) Local and (ii) General.

Local Treatment

In local treatment, the selected pole of a magnet is applied to the affected spot of the body directly, next to the skin, that is, in close contact with the bare skin, without applying pressure on it. This is done when the ailment is localised in a particular part of the body, say, for example, in the case of a boil, in mumps or in tonsils, and in the case of pain and swelling of a small portion on account of some injury or otherwise. In the case of diseases due to some bacterial action or infection, the north pole should be applied, while in the case of pain and swelling where no infection is suspected, the south pole should be used. Thus the selection of the correct pole of a magnet for spot application on the body is important.

General Treatment

General treatment is given in the case of ailments not centred in any particular part of the body but affecting major portion of the body or extending to wider area or covering the whole body. This requires treatment by two different poles of the magnets of similar shape, size and strength.

The general rule for carrying out general treatment is as follows. If the disease lies in the upper half of the body, that is, in the parts above the navel, magnets should be applied in the palms of both the hands of the patient and if the disease is more in the lower half of the body, that is, in the parts below the navel, then magnets should be applied under the soles of both the feet. In case the disease spreads to the whole body, the treatment may be given alternatively in hands and under feet on alternate days, that is, one day in both hands and next day under both feet. Here, as a general rule, the North pole should be applied to the right hand or foot and the South pole to the left hand or foot.

Electricity and Magnetism

The human body is very wonderfully constructed and each part of it is connected with other parts of body, directly or

indirectly, through blood-circulation and nervous system. The extremities of the body, namely, hands and feet, are directly connected with many other important organs of the body.

The hands, as well as the feet, have many 'Reflexes', which tie up the different portions of the hands and feet with various other organs. The palmer and the dorsal sides of the hands have different reflexes. The different reflexes have direct links with various regions of the body, but the palm side is tied up to more important organs. The same is the position with the feet. Hence the palms of hands and the soles of feet are used in general magnetic treatment and the effect of the treatment goes to all the parts of the body, through internal connections.

The diagrams of the reflexes of the hands and the feet are given at the end of this book.

It is a matter of common knowledge that Electricity and Magnetism are correlated. There is a magnetic flux around the lines of electricity and magnetism can produce electricity under certain circumstances. Hence each of them is so inter-linked with the other that it cannot be completely separated.

Electropathy and Magnetotherapy.

In Electricity, there are two currents, namely, Positive and Negative, while in Magnetism there are two Poles, namely, North Pole and South Pole. Both the currents of Electricity match with the corresponding Poles of the Magnet. Therefore, wherever Positive current is used in Electricity or Electropathy, North Pole is applied in Magnetotherapy; and wherever negative current is used in Electricity or Electropathy, South Pole is applied in Magnetotherapy.

In view of the above, Magnetotherapy works on the lines of Electropathy, at least in some respects. The methods followed in Electropathy in some cases can, therefore, be adopted in Magnetotherapy, with certain modifications.



Application of magnets to palms

Standard Lead Technique of ECG.

Let us understand the Standard Lead technique employed in Electrocardiography (ECG) for further study. The parts of the body employed for the purpose of ECG are two fore-arms (or hands) and the left leg (or foot). These may be coupled in any one of three combinations, each of which is called a 'lead'. Each standard lead includes two electrodes and thus the standard ECG is a combination of two tracings. Lead I consists of electrical tracing produced by a combination of the right arm and the left arm electrodes. Lead II stems from the right arm and left leg electrodes ; and Lead III from the left leg and left arm electrodes. A fourth lead occasionally used, was termed as Chest Lead. It was tested at several parts of the body but did not prove satisfactory. Hence the main leads in use are only three—namely, leads I, II and III.

The ECG shows a graphic representation of the electrical forces produced by the heart. The application of magnets works through the blood and acts through the heart. In magnetotherapy, the use of all the three Leads is adopted as our first three methods of application of magnets. In addition, two more methods to cover all positions are adopted. The additional methods are the combination of (i) Right Hand and Right Foot and (ii) Right Foot and Left Foot. Thus the main methods of application of magnets in general treatment come to five in number. The reverse of Lead II, namely Left Hand and Right Foot is neither used in ECG nor it need be used in Magnetotherapy. The relationship of the magnetotherapy methods to the ECG Leads as well as the Poles of magnets to be applied in each method are indicated below :

Five Methods of Application of Magnets

<i>Magnetotherapy</i>		<i>Electrocardiography</i>	
<i>No. of method to be adopted</i>	<i>Pole of magnet to be applied</i>	<i>Where to be applied</i>	<i>Corresponding ECG Lead</i>
I	North Pole	Right Hand	I
	South Pole	Left Hand	
II	North Pole	Right Hand	II
	South Pole	Left Foot	

III	North Pole	Left Hand	III
	South Pole	Left Foot	
IV	North Pole	Right Hand	—
	South Pole	Right Foot	
V	North Pole	Right Foot	—
	South Pole	Left Foot	

The method of treatment is selected for every patient or disease, according to the nature or place of the ailment. The North Pole or the South Pole of a magnet is to be applied to the right or left side of the body according to the methods selected for treatment as shown above.

Thus in case method I is adopted for the treatment of any person, North Pole should be applied to the right hand and the South Pole to the left hand. If method II is chosen, North Pole should be applied to the right hand and the South Pole to the left foot. The application of the Poles in other methods will be made to the parts of body noted against the respective methods.

Technique of Contact with Magnets

When treatment is to be carried out by the foregoing methods, two round or square magnets, one having North Pole in its centre and the other having South Pole in its centre, are to be used. A wooden bench, chair or stool and a piece of wooden plank about one inch thick, big enough to provide space for both the feet, should be arranged.

For taking treatment by method No. I, the patient should sit on the wooden bench, chair or stool and should keep the magnet having North Pole in the centre on his right hand side and the magnet having South Pole in the centre on his left hand side. He should then place his right palm on the centre of the magnet kept on his right side and his left palm on the centre of the magnet on his left side. The wooden plank should be kept below his feet. No pressure need be applied on the magnet; simple constant touching is sufficient.



Application of Magnets to soles

For taking treatment by method No. V, the patient should sit on a wooden bench, chair or stool, keep both magnets on the wooden plank (North Pole to the right side and South Pole to the left side) and rest his soles on their centres. Shoes should be removed but socks are not objectionable.

For treatment under other methods, hand or feet may be placed on the magnets as suggested against the respective methods.

Some Simple Tests to perceive Magnetic Force

Some people may wonder and doubt whether magnetic force can work on, or pass through, the hand or foot placed on a magnet. A simple test, given below, will convince anybody that it does.

“Rest your palm on an electromagnet or strong permanent magnet and place a number of small iron pins on the other side (back) of the palm. The pins will stick out like bristles on the back of the palm, proving continuity of the magnetic force through the palm, although the palm itself may not feel any sensation or magnetic effect. This proves that magnetic force not only works on the palm but passes through it and goes beyond”. Similarly the magnetic force works in the body through the soles also.

The magnetic force passes through cloth, glass, rubber, stainless steel and wood too. This can be easily proved by the following tests :

- (i) Take any cloth made of cotton, nylon, terelene or wool. Keep some pins on the cloth and pass a magnet below the cloth. The pins will move as the magnet below the cloth is moved.
- (ii) Take a glass-tumbler or a steel—tumbler and put some pins in it. Pass a magnet by the side of the outer wall of the tumbler. The pins will move inside the tumbler as the magnet is moved outside. If the magnet is lifted higher than the top of the tumbler, the pins

will come out of the tumbler and will stick to the magnet.

(iii) Take a hot-water bottle or anything else made of rubber. Keep some pins on one side and pass a magnet on the other side of the bottle. The pins will move just as the magnet is moved. If the magnet is rotated briskly, the pins will dance.

(iv) Take a smooth wooden plank of the thickness of about half an inch. Keep some pins on the upper side of the plank and pass a strong magnet under the plank. The pins will move in the direction the magnet is moved.

All these simple tests will prove that the force of magnetism is not checked or stopped by any of the things mentioned above but passes through them.

Treatment of Diseases

Almost all the diseases where organic or tissue changes have not yet occurred, are amenable to magnetic treatment. A list of a hundred common diseases which can be successfully treated by magnets is given at the end of this chapter. The appropriate method of application to be adopted in each of these diseases as well as some additional hints have been indicated against each disease for facility of treatment.

Selection of Magnets

The shape, size and design of a magnet is to be selected according to the convenience and suitability of its application to the particular part of the body where it is required to be used. There are parts of body where large-size magnets will not fit in and there are some other places where small size magnets will not be adequate. For instance, if we have to apply a magnet locally to an eye, we should naturally require a small size, preferably round magnet, which may cover the closed eye. A magnet of big size will neither be suitable nor

advisable for application on the eye. On the other hand, if there is pain and swelling in a large portion of the body, in an area which is as big as the palm or still bigger, then the small magnet, which may be suitable for the eye, may not be sufficient for this painful area. A bigger-size magnet which can cover the painful and swollen area as far as possible, will be definitely better. Hence using the same magnet, with the same shape, size and design for application on different parts of body for relieving different types of diseases will neither be convenient nor suitable.

The same is the position about the strength of magnets. There are some tender places in our body, namely, brain, eye and heart where very powerful magnets should not be applied nor magnets of medium power should be kept in contact for long durations. On the other hand, low-power magnets may not be sufficient for the ailments of hard, large muscles or bones namely hips, thighs, knees or heels, etc. Thus the shape, size, design and strength of a magnet should be selected according to the chronicity and seriousness of the disease, the part of the body affected and the age and the strength of the patient to bear the force of the magnetic emanations, when giving local treatment. It is better to keep these points in view while giving general treatment too.

It may be pointed out here that it is the magnetic force that relieves and cures diseases and not the dimensions of the magnet to be applied. Hence all magnets, prepared for commercial, industrial, medical and other purposes can be utilised for the purpose of treatment, if their shapes, sizes, designs and strength are suitable for application to the part of the body affected and for the ailment of the case in hand.

The direction to which a magnetic pole faces, has bearing on the pattern of lines of force emanating from it. When North pole faces north, parallel lines of force emanate from it, while very few lines of force, in a distorted pattern, emanate if the North pole faces south or east or west. Similar is the position with the South pole.

Seating of Patients.

It has been stated under the heading "Earth's magnetic effect on human beings", in Chapter 3, that our bodies are considered to have magnetic sides. In view of the position described therein, the seating of the patients when giving magnetic treatment, becomes important. The patients should be asked to sit in such a way that the North pole of the magnet when placed on the body, say on the forehead or throat, should be towards the North and the South pole of the magnet should be towards the South, if only one pole of a magnet is applied at a time. If the treatment is given by different poles of two magnets simultaneously, then the patient should be asked to sit facing 'West' so that his right hand and the whole right side remain towards the north and his left hand and the whole left side remain towards the south. If the patient is seated in these directions, the same magnets will show better results, than when the patient sits in other directions. In the suggested directions, the magnetic treatment will have the support of natural terrestrial magnetism also.

Peculiar Manifestations

Long experience with magnetic treatment shows that application of strong magnets causes some peculiar manifestations in some patients. Some people feel some mild tingling sensation, as if some breeze is blowing or as if some light waves are passing in their hands or feet when strong magnets are applied to them. Some persons feel warmth, some feel giddiness, some get yawning, some feel sleepy and some get slight perspiration on the parts touching the magnets, while others do not feel any sensation. It is difficult to give any convincing explanation for the various feelings and manifestations, but the fact remains that whether one feels any sensation or not, the magnets work on every person touching them.

Duration of Application of Magnets

The magnetic treatment should normally be given for about 10 minutes only once a day. In chronic cases of Gout, Para-

lysis, Poliomyelitis, Rheumatism or Rheumatic Arthritis, etc., the time of treatment can be gradually increased even up to half an hour daily or for 15 minutes twice a day. In the case of children, however, the time may be reduced upto 5 minutes a day, depending upon their age, disease and tenderness.

There is no fixed course or time-limit for carrying out magnetic treatment. It should be continued till cure is effected. The cure is achieved in different periods in different cases, depending upon the nature and length of the disease, the age and strength of the patient and the power of magnets to be applied. In some cases, effect is noticed within a few days, in some cases in about two weeks, in some chronic cases in a few months. Magnetic treatment corrects all functional disorders, but in some very old and chronic cases, which have defied all other treatments and where diseases of long standing have caused considerable changes in the body, magnetic treatment may also show little benefit, especially where organic changes have set in. Some such cases may require surgery and some others divine help.

Generally there is no aggravation by magnetic treatment. If, however, any pain seems to increase in the first instance in any case, it may be due to the fact that the magnet in the process of eliminating the pain, draws it out from the internal parts of the body to the skin. The increase in pain, if felt in any case, subsides in a short time and no separate treatment is considered necessary for reducing it.

Different ways of Application of Magnets

Dr A. K. Bhattacharya of Naihati, West Bengal, has written in his work on 'Magnet healing' that when a powerful (Horse-shoe) magnet is held in the left hand, it stimulates the heart; while in the right hand, the heart action is slowed down. He has demonstrated the case of a patient to prove the correctness

of his theory. He adds that when there is high blood pressure, it means that the heart action should be slowed down and hence the magnet should be held in the right hand and when the blood pressure is low, the magnet should be held in the left hand in order to increase the activity of the heart.

Dr H. T. Bolakani of Bombay has designed his patent magnet to be worn on the wrist of the left hand in all cases of all diseases. He prefers the left wrist as it is nearer the heart as compared with the right wrist. He has written in his book that many cases of high blood pressure have been relieved or cured by placing his magnet on the left wrist in all cases.

Dr R. S. Thacker of Delhi advises that the treatment of high blood pressure should be carried out by Method I, namely, by applying magnets in both hands, but care should be taken to see that strong magnets are not applied to such persons for long periods. Treatment for five minutes in such cases may be sufficient. He says that the magnet increases heat in the body. In high blood pressure, there is already heat and rush of blood to head. He, therefore, advises that a wet towel folded into several layers should be put on the lower part of the spine and it will quickly afford relief to the patient, as that portion of the spine is directly connected with the head. In the case of low blood pressure, he places two magnets in the hands of the patients for 10 minutes or even longer and also applies a strong magnet on the lower part of the spine of such patients. Dr Thacker's method of applying three magnets at a time corresponds to the method adopted by Dr Mesmer in the treatment of a lady mentioned in Chapter 5, although for a different disease. Dr Thacker sometimes applies even more than three magnets to a patient at the same time, if necessary.

The Aimante Trading Company of Tokyo, Japan, has made a magnetic health band which is stated to be very useful against stiffness of shoulders and high blood pressure. They advise that the band should be worn on any of the arms, throughout the day and night. The magnetic band contains six to eight small ceramic magnets and looks like a watch strap or a bangle.

In view of the successes achieved by all the above magnetotherapists by applying magnets to different parts of body for the same complaints, it can be assumed that the force of magnetism works on the body as a whole, irrespective of the place on which it is applied.

Guidelines and Precautions for Use of Magnets

- (i) The best time for taking magnetic treatment is morning, after discharging usual routine duties and taking bath but before taking breakfast. If it is not possible to take this treatment in the morning for any reason, it may be taken in the evening.
- (ii) No cold thing should be drunk or eaten for at least half an hour after applying magnets. The magnets create temporary warmth in the body and it is not advisable to take anything cold when body is heated. Warm or hot things, namely, milk or tea, etc., can, however, be taken immediately after application.
- (iii) Bath should not be taken for 2 hours after application of strong magnets, for the same reason.
- (iv) Strong magnets should not be applied immediately after taking full meals as their application might induce nausea or vomiting.
- (v) Strong magnets should not be applied to pregnant ladies, children and to delicate points in the body, namely-brain, eyes, heart, etc.
- (vi) Ordinarily, application of magnets does not show any harmful effects. But the application of strong magnets for a long time may result in some inconvenience, namely, heaviness in head, headache, sleepiness, yawning, tingling in nerves, etc. If any such inconvenience is felt, the contact of magnets should be discontinued immediately.

- (vii) When the magnet has been improperly selected, the resulting sufferings can be permanently removed by laying the outspread hands on a large zinc plate for half an hour.
- (viii) Homoeopathic medicine "Zincum Metallicum" antidotes the effects of the medicines prepared from the magnet. Hence this medicine can also be used, in low potencies, to antidote the adverse effect of application of magnets, if any noticed.
- (ix) Opposite poles of strong flat magnets should not be clapped together. If they are placed face to face at all, fingers should not be allowed to come between them as they may be crushed.
- (x) The opposite poles of two magnets may be joined together with a 'keeper' when they are not in use, so that their magnetism is not lost.

TECHNIQUES OF APPLICATION OF MAGNETS IN THE TREATMENT OF 100 COMMON DISEASES

<i>Sl. No.</i>	<i>Disease</i>	<i>Method to be applied</i>	<i>Remarks (M.W. stands for magnetised water)</i>
1	2	3	4
1.	Abscess, Boils Cancers Carbuncles	I or V	Method I if disease is in upper part of the body ; method V if in lower part. Local treatment, with North Pole, should also be carried out on the spot of eruption.
2.	Acne	I	Local treatment and drinking of M.W. will also help.
3.	Adenoids Nasal Polypus	I	—do—

1	2	3	4
4.	Anaemia	I	M.W. should be given to regulate and strengthen the function of the liver.
5.	Aphthae Thrush Ulcers in mouth	I	M.W. will also help as the ailment is generally due to disorder of stomach.
6.	Appendicitis	—	Local treatment with south pole of a strong magnet, twice daily.
7.	Arthritis	I & V	Alternately on alternate days. Time may be increased from 10 to 30 minutes gradually. Treatment to be continued for a long time. M.W. will also help.
8.	Asthma	I	Low-power magnets should be applied for 5 minutes. North pole may also be applied on forehead for another 5 minutes. M.W. should be given to drink and treatment be continued for a long time.
9.	Blood Pressure (High or Low)	I	In high blood pressure, treatment may be given for five minutes and wet—cloth pad may be applied to the lowest part of the spinal cord. In low blood pressure treatment may be given for 10-15 minutes and one strong magnet may also be applied

1	2	3	4
10.	Bronchitis (Branchopneumonia)	I	to the lower part of the spinal cord and M.W. may be given several times daily. Treatment to be started with 5 minutes daily and time to be increased gradually upto 10 minutes. M.W. should be given.
11.	Chilblains	I or V	If in hands, method I ; if in feet, method V. If in all extremities, then methods I and V alternately, on alternate days.
12.	Cold in Head	I	M.W. may be given every two hours.
13.	Colic	I	Local treatment also. M.W. too will help.
14.	Constipation	II	The diagonal magnetic effect removes constipation in due course of time. M.W. must be given several times a day.
15.	Cough (Dry or Wet)	I	Small magnets may also be applied locally on the throat.
16.	Convulsions and Cramps	I or V	Remarks as against item 11.
17.	Cuts and Wounds	I or V	According to the location. Local treatment with the North pole will be more beneficial.

1	2	3	4
18.	Diabetes	I	M.W. will help. Treatment to be continued for a long time.
19.	Diarrhoea and Dysentery	I	M.W. every two hours.
20.	Dropsy	I or V	Method I, if disease is more in upper part of the body ; method V, if disease is more in the lower part. M.W. will also help.
21.	Dyspepsia	I	M.W. should also be given, several times a day.
22.	Ear troubles (Boils in ears, deafness, discharge, Earache, Inflammation)	Special Treatment	South pole of a strong magnet may be applied in the right hand and North pole of a medium or low-strength magnet should be applied near the affected ear. If trouble affects both ears, the small magnet may be applied near each ear for 5 minutes.
23.	Eczema, Herpes, Ring worm	I or V	Remarks as against Abscess.
24.	Epilepsy, fits, Hysteria	II	M.W. should be given several times a day and treatment should be continued for a long time.

1	2	3	4
25.	Eye Troubles (All functional disorders)	Special treatment. *	South pole of a strong magnet may be applied in the right hand and North pole of a medium or a low-strength magnet should be applied on each eye for 5 minutes irrespective of the location of the disease. Treatment is the same for affections of conjunctivitis, defective vision, eye-lids inflammations, injuries to eye balls, iritis, lachrymation, purulent discharge, short-or-long-sightedness, sore eyes, spots before eyes, squinting, etc.
26.	Fevers (All kinds)	I	M.W. should be given every two hours.
27.	Flatulence (Gas, Wind)	I	—do— Ginger should be given in plenty and gas producing things should be avoided.
28.	Gall Stones	I	M.W. must be given to drink several times a day. Local treatment for pain, if any.
29.	Giddiness	I	M.W. will be an additional help.
30.	Goitre	I	Arc or crescent type magnets should also be applied locally

* Note. This is in accordance with the electric treatment of eyes given in the American Journal Service suggestions—Volume XXX No. 5. Sept. October 1930,

1	2	3	4
			on the swollen thyroid gland. Bananas and M.W. should be taken by the patient. Treatment should continue for a long time.
31. Gout		I & V	Method I or V according to location, or alternately on alternate days. Treatment may be given twice daily and should be continued for a long time. M.W. necessary.
32. Gravel (deposits in urine-red or white)		V	M.W. several times a day, for a long time as it helps to wash out deposits and stones from bladder, and kidneys.
33. Headache (different types)		According to causes	<p>(i) If due to indigestion, method I</p> <p>(ii) If due to toxæmia : (A) Jaundice, method I ; (B) Nephritis, method V (C) Sinusitis, magnets on nose ; (D) Tonsillitis, magnets on throat, etc.</p> <p>(iii) If due to fevers, method I and M.W. every two hours.</p> <p>(iv) If due to ear trouble, treatment as for ear trouble.</p> <p>(v) If due to eye trouble, treatment as for eye troubles.</p> <p>(vi) If due to mental strain, or worry, Method I for 15-20 minutes.</p>

1	2	3	4
			(vii) If due to injury, local treatment on injured portion.
			(viii) If cause not known, C shaped or crescent type magnet on forehead. North pole upwards and South pole downwards.
34. Heart Trouble (Angina Palpitation, Sinking)	I		A <i>small magnet</i> may also be applied near the troubled area for 5 minutes only and its effect may be watched. Strong magnets should <i>not</i> be applied near the heart.
35. Hernia	I		Local treatment is necessary. M.W. also.
36. Hiccough	I		Another method is to apply the North pole of a strong magnet on the abdomen and South pole, just opposite to it, on the back. M.W. also.
37. Hydrocele	V		M.W. is essential. Local treatment not necessary.
38. Hypochondria	I		—do—
39. Hysteria	II		Remarks as against Epilepsy.
40. Influenza	I		Remarks as against Fevers.
41. Injuries	I or V		According to location ; but local treatment is more use-

1	2	3	4
			ful and should be given immediately. Hot things and M.W. should be given to eat and drink.
42.	Insomnia	I	One small magnet, preferably South pole, on forehead at night also.
43.	Intelligence (To increase)	I	One small magnet, preferably crescent type on forehead also. North pole upwards and South pole downwards.
44.	Jaundice	I	M.W. must be given. Local treatment is not necessary. Papaya, radish and cane juice are beneficial in this disease.
45.	Kidney Pain (Renal colic)	I	Local treatment also. M.W. will help and must be given.
46.	Liver Trouble	I	—do—
47.	Lumbago	V	One strong magnet (south pole) may be applied on the painful spot also.
48.	Malaria	I	Remarks as against Fevers.
49.	Measles	I	Treatment as for Fevers.
50.	Memory (weak)	I	Treatment as for increasing Intelligence.
51.	Mental retardation	I	—do—

1	2	3	4
52.	Mumps	I	Local treatment with crescent type magnets also, morning and evening, for a few days.
53.	Neuralgia Neurasthenia Neuritis	I	Local treatment also where possible. M.W. will help.
54.	Obesity	I & V	Four strong magnets may be applied simultaneously and their effect may be watched or two magnets may be applied first in hands and then in feet. Diet should be restricted, fats may be avoided and M.W. should be given.
55.	Orchitis	I	Local treatment may also be given.
56.	Palpitation	I	Remarks as against Heart trouble.
57.	Paralysis	I & V	Alternately on alternate days. If only on right side of whole body, method No. IV ; and if only on left side of whole body, method No. III. Time may be increased gradually upto 30 minutes or treatment may be given twice daily upto 15 minutes each time. Treatment should be continued for a long time. M.W. should be given regularly.

1	2	3	4
58.	Piles (Haemorrhoids)	I	M.W. may be given continuously.
59.	Pleurisy	I	M.W. may be given continuously.
60.	Pneumonia	I	Treatment as for Fevers.
61.	Poliomyelitis	V	Local treatment should also be given. See remarks against paralysis.
62.	Pox (Chicken or Small)	I	Treatment same for both. M.W. every two hours.
63.	Prostate Enlargement		Local treatment for a long time. M.W. should also be given.
64.	Rheumatism	I & V	Remarks as against Paralysis.
65.	Sciatica	V	Local treatment on paining portion also.
66.	Spermatorrhoea	V	M.W. will also help.
67.	Spleen Enlargement	I	Local treatment also, along with M.W.
68.	Stomach Troubles (all diseases)	I	In pains, local treatment also. M.W. must be given for a long time
69.	Stones	I & V	If in bladder, method I; if in the kidney, method V. M.W. is a must, and should be continued for a long time.

1	2	3	4
70.	Swelling of Legs & Feet	V	M.W. must be given and use of salt minimised.
71.	Syphilis and Gonorrhea	V	M.W. mixed with equal quantity of simple water may also help in both diseases.
72.	Tonsilitis Pharyngitis	I	Local treatment on throat also. C type or Crescent type magnet may be used. Cold and sour things should be avoided.
73.	Tuberculosis	I	M.W. is essential.
74.	Typhoid	I	Remarks as against Fevers.
75.	Ulcers in Abdomen	I	M.W. may be given every two hours. Chillies should be avoided.
76.	Urinary diseases	V	For scanty or stoppage of urine, give one ounce of magnetised water, with one ounce of simple water in quick succession of say 5 minutes for an hour or two and the patient will pass urine.
77.	Urticaria (itching)	I	Medium or light-strong magnets may be used. M.W. will also help.
78.	Veins (inflamed Varicose)	I or V	According to location of disease. Local treatment also.

1	2	3	4
79.	Vomitting	I	M.W. every half an hour or so.
80.	Worms	I	M.W. should be given to drink 3-4 times every day. Treatment for a long period.

DISEASES OF WOMEN.

81.	Amenorrhoe (Late/Scanty menses)	V (or I and V alternately)	M.W. should also be given.
82.	Bearing Down (falling of womb)	V	M.W. should be given three four times daily.
83.	Cysts or inflammation	I	Local treatment also, along with M.W.
84.	Dysmenorrhoea (Painful menses)	V (or I and V alternately)	Local treatment and M.W. should also be given.
85.	Inflammation of womb or ovaries	V	Local treatment also. M.W. should be given regularly.
86.	Labour Pains or After Pains	I	M.W. should also be given.
87.	Leucorrhoea	I & V	Alternately on alternate days. M.W. will also help.
88.	Menopause (Troubles of)	V	Remarks as against Amenor- rhoea.

1	2	3	4
89.	Miscarriage (To excite)	I	Local treatment also, along with M.W.
90.	Sore nipples	I	—do—

DISEASES OF CHILDREN

91.	Atrophy (Wasting)	I	M.W. should be given to improve general health.
92.	Bed Wetting	V	—do—
93.	Cholera Diarrhoea	I	M.W. every half an hour or so.
94.	Dentition Troubles	I	Remarks as against item 91.
95.	Milk Curds in Stools/Vomits	I	Remarks as against item 93.
96.	Night Terrors	I	Remarks as against item 91.
97.	Rickets	I	—do—
98.	Thrush	I	—do—
99.	Vomitting	I	Remarks as against item 93.
100.	Wind in Stomach	I	Magnets may also be applied on abdomen and M.W. should be given.

The cases of diseases not mentioned here may be treated on the basis of general guidelines and according to the location of the ailments.

Similarly, the diseases of women and children not detailed under their headings may be dealt with according to the suggestions given in the list of general diseases.

The application of magnets does not show the same improvement in all cases of the same disease. The response differs according to length and seriousness of the disease and the age and strength of the patient.

Almost all diseases can be cured, or at least relieved, by magnetotherapy, provided any organic defects have not set in. The improvement does not, however, show a steady course in chronic ailments and there may be ups and downs for various reasons, but the degree of improvement and its duration increases till it becomes a lasting cure.

It may be reiterated here that the guidelines and the precautions suggested in this chapter should be observed before and after application of strong magnets, in all cases, as far as possible.



Magnetised Water

Water is a transparent fluid, which has no colour, odour, shape or taste of its own. It takes the shape of its container and the colour, odour and taste of other things mixed with it. Thus it has got the characteristic of assimilating the properties of other things. Accordingly, when the properties of a magnet are absorbed in water by continuous contact between the two, the water gets magnetised and shows its beneficial effect when taken interally for some time.

Influence of Magnetic Field on Properties of Water

Scientists have proved that a magnetic field influences the progress of crystallisation in solutions and increases the number of crystallisation centres. It has also been established that many physical and chemical properties of water undergo a change when it is exposed even for fractions of a second to the influence of a weak magnetic field. The changes take place in its boiling temperature, density, electrical conductivity, surface tension and viscosity and the new properties exist for several days.

Useful Results of Experiments With Magnetised Water

Many experiments have been made in Russia with magnetised water and very useful results have been noticed in different fields of technology. A brief description of some industries where magnetised water has been found particularly beneficial is given below.

It is a matter of common knowledge that when water flows into a pipeline, some deposits adhere to the walls of the pipes.

These deposited coatings of the pipes and other fittings cause a great nuisance, interfere with the free working of the machinery and reduce its efficiency. These deposits are harmful for combustion engines also. A coating of 1.5 mm in thickness reduces the power of a car engine by 5 horse power. Consequently, the expenditure of fuel and lubricants is increased and the mechanical strength of various parts of the engine is decreased.

When a section of a pipeline carrying water is placed in a magnetic field, there appears on its walls, a brownish powder instead of the coating of hard deposit. This powder can be removed from the pipes, fittings or the boilers, etc., without stopping the technological process.

Magnetised water has helped the automobile engineers. When poured into radiators, it prevents the forming of deposits and also destroys old salt sediments on the pipes. The magnetised water also removes the so-called water stone inside the pipes and fittings.

Magnetised water has proved useful for oil industry. Salts adhere to the pipes through which oil is pumped out to the surface. Sets of magnets were mounted in the shafts of walls. This resulted in the dropping of the sedimentation of salts in pipes and in the manifold increase of their length of service.

Magnetised water lessens dust during the drilling of blast holes and thus improves the working condition of the miners.

Magnetised water helps in building construction too. The strength of samples of concrete made with magnetised water is increased by about 20 to 35 per cent. Light concretes become almost twice stronger and heavy concretes 50 per cent stronger as compared to similar concretes made with ordinary water. Naturally, magnetised water reduces the expenditure on concretes.

Magnetised water was also used in irrigation and the plants grew at a speed 20 to 40 per cent faster than before.

The magnetic treatment of water thus saves a lot of expense of labour, time and money and is successfully applied in many industries in Russia.

It appears that the use of magnetised water can solve or minimise many problems and can afford many facilities. The use of magnetised water, therefore, deserves the attention of the industrialists in India for the benefit of their industries and for the country as a whole.

Beneficial Effects of Magnetised Water on Human Beings

Let us now come to the beneficial use of magnetised water for human beings.

The live tissues are mostly colloidal solutions. Scientists have, therefore, arrived at the conclusion that the magnetic field can influence biological processes as well.

It has been shown in previous chapters that the force of magnetism has a great influence on the living organisms. If the invisible force of magnetism is transferred to some other substance which is capable of absorbing it within itself, and then the magnetised substance is administered into and is assimilated by any living organism, such assimilation naturally has its effect on the living organism.

When a permanent magnet is kept in continuous contact with water, for considerable time, the water is not only influenced by the magnetic flux of the magnet, but becomes magnetised and acquires magnetic properties. Such magnetised water has its effect on the human body when taken internally, regularly for a considerable period.

Magnetised Water helps in All Diseases

The experience on long use of magnetised water, prepared from the healing vibrations of permanent magnets, has proved beyond doubt that it helps in almost all diseases and is espe-

cially beneficial in the disorders of the digestive, nervous and urinary systems.

The continuous use of magnetised water improves digestion, increases appetite and reduces excess of acids and bile. It helps in proper movement of bowels and expels poison, unwanted salts and morbidity from the body.

The use of magnetised water has helped women in the regularisation of their menses.

The magnetised water can also help to clear the clogged arteries, normalise circulatory system and regulate the functioning of the heart.

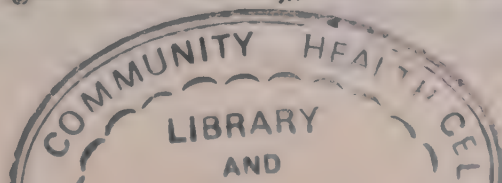
The magnetised water helps in kidney troubles and brings out urine. If urine is stopped, administration of one ounce of the magnetised water mixed with one ounce of simple water in quick succession of 5 to 10 minutes for 8 to 10 times will make the patient pass urine. In a Leningrad Clinic, patients suffering from stones in the kidneys and gall bladder drank magnetised water and it helped to wash out the salts and stones from their organism.

The magnetised water is effective in the treatment of all kinds of fevers, all sorts of pains, asthma, bronchitis, colds, coughs, headaches, etc. In short, it helps in the removal of every indisposition.

The use of magnetised water is economical, safe and simple. It can be easily prepared in every house. It can be taken by healthy persons also for improving digestion and for removing weakness and tiredness associated with the day-to-day activity of life.

Dr H. T. Bolakani of Bombay has written in his book "Secrets of Magnet Therapy" that many Europeans go to a place "Evian" in France to seek relief from various ailments of the kidneys, exhaustion, gout and obesity, as well as pre

02668



maturely growing old. Every cure is based there on Evian Water, which flows from a spring. Bottles of this water are sold all over France and it shares honours in houses and restaurants with other mineral waters. This water is proclaimed beneficial for feeding children, diuresis, disintoxication, kidney troubles, arthritis, gout, obesity and urinary ailments. It is felt that Evian Water is nothing else but 'Magnetised Water'. The Russians call the magnetised water as 'Wonder Water'.

It has been reported that patients in Britain, Denmark, Norway and Sweden have noticed that drinking magnetised water or even Beer treated with magnetic conditioner has improved their health.

Milk can be Magnetised and Made more Potential

Many people in India are in the habit of taking milk before going to sleep at night. If a glass of hot milk is kept over a permanent magnet, encased in a round or square frame about 3 or 4 inches diameter, or if two permanent magnets of crescent type of about 2 inches length are placed around and in close contact with the glass, for 15 to 30 minutes, and the milk is taken thereafter, it makes a very beneficial diet for the convalescent period and becomes more potential generally as well as sexually.

A news item about the effect of magnets and magnetised water has been published in the Times of India and the Hindustan Times both dated the 21st August 1975. The news is reproduced below for information :

New Delhi—August 20—Soviet researchers have found that cows give more milk when magnetised.

They have discovered that magnets can raise milk output and the fat content in milk, according to the Soviet News Agency, APN.

Magnetic treatment also cures and prevents a disease called 'Mastitis'. Magnetised water is also used to cure human

ailments. It is used in Soviet clinics to relieve pain, reduce swelling and for the removal and prevention of kidney stones.

“Some Soviet biologists are of the view that all effects of magnetism on living beings are exerted through water.” —PTI

Preparation of Magnetised Water

An iron-alloy magnet of one piece, which can lift a quarter of a kilogram of iron-weight, may be taken and cleaned thoroughly. If the magnet has any colour paint, it should be removed completely. Then a glass tumbler may be taken and filled up with clean drinking water. The magnet may be immersed in the water and the glass tumbler may be covered and kept safely. This may be done in the evening. The water gets magnetised in a very short time. The magnet may, however, be allowed to remain in the water for twelve hours to assimilate full magnetic emanations. Next morning the magnetised water may be filtered and transferred to a clean white bottle from which it may be used.

If a bigger one-piece iron-alloy magnet which can lift about one kilogram of iron-weight, is used for preparation of magnetised water, bigger glass vessel or china-clay jar which can contain 2 or 3 litres of water may be used. The magnetised water prepared in the bigger vessel or jar may be kept in several bottles after filtration and can be used by many persons or by one person for many days. The duration of keeping the magnet in the bigger vessel or jar full of water remains the same.

The magnet can also be allowed to remain in water for 24 hours, but during this time or any longer period, there is the likelihood of the magnet getting rusted and the water getting contaminated. It is, therefore, necessary that the magnet and the glass tumbler or the jar, in which the magnet is kept, must be cleaned thoroughly every time before keeping the magnet in water.

In case any reddish deposit is seen in the glass tumbler or jar or in the bottles in which the magnetised water is stored after

filtration, the magnetised water upto a centimetre above the bottom of the bottle may be used for human consumption and the lower reddish portion of the water may be thrown or given to the roots of plants or trees. The glass jar or the bottle may be cleaned for further storage of fresh magnetised water. It is no use keeping the magnet in water for a longer period as it will only lead to contamination without any further advantage.

In order to completely avoid the possibility of rusting of the magnet and contamination of the water, the magnet may be kept in close contact with the vessel (glass tumbler or glass jar) from outside as suggested for magnetising milk. A magnet of the same or bigger size may be taken for this purpose. Magnetism passes through glass, and, therefore, milk, water, wine, etc., assimilate magnetic effect even when magnets are kept in close touch with the vessels from outside. The glass tumbler or the glass jar may be kept either by the side of or over the magnet for at least 12 hours, or upto 24 hours without any risk of rust or contamination. For this purpose, magnets enclosed in flat, round or square metal covers of the diameter of three or four inches, are most suitable as the glass tumblers or glass jars can be easily kept over them and the magnetic emanations pass into the water through the full bottom of the containers.

Dosage of Magnetised Water

The dose of magnetised water for adults is two ounces (about 50 ml.) at a time. It may best be taken in the morning before breakfast and after both the major meals. For children, the dosage may be reduced to one ounce at a time, thrice daily, and in the case of infants it may be further reduced to one or two teaspoonfuls at a time, thrice daily. In fever, the magnetised water may be taken every two hours. It may, however, be noted that magnetised water, with magnetic properties, becomes a medicine and should not be taken in excessive quantities like simple plain water.

Advantages of Magnetotherapy

It is well-known that strong medicines of the modern age have their strong reactions and sometimes result in fatal consequences. It is only the systems of treatment based on natural laws and principles which do not show harmful side effects.

The practitioners of every system of medicine plead and emphasise that while a patient is under their care and is taking their medicines, no other treatment should be given to him side by side, but magnetotherapy does not follow the above convention.

Magnetotherapy is Natural Treatment

This system of treatment is based on natural laws, works in conformity with the nature and is an aid to natural processes of healing. It has, therefore, no harmful effects which could endanger the life of a patient.

The treatment through magnets can be taken alone or along with any other treatment, as it does not interfere with any medical system but helps to accelerate the action of all medicines which have the effect of restoring the ailing body to its natural state.

Magnetic Touch Accelerates Blood Circulation

The continuous contact with magnets for some time generates warmth in body, activates the whole working system and accelerates blood circulation. It, therefore, gives strength and tones up the body as a whole, helps in faster recovery from ailments, removes tiredness and weakness, proves beneficial in

convalescence periods and reduces pains and swellings of every part of the body.

Beneficial for Light Conditions as well as for Serious Diseases

The treatment with magnets helps those who are not mentally satisfied with their lives. It assists those who want more out of living, who live in quiet depression but feel that there is a better way of life. It is beneficial for the hurried, tense business executive, the worried nervous house-wife, the career woman unable to find mental peace, the child who is enraged by continued temper tantrums, the man and woman who cannot stop drinking or living on pills, and for the lonely and the hypochondriac. If such persons take advantage of magnetism, they will find it rewarding, changing their lives for the better.

But magnetotherapy is not only for the treatment of light conditions mentioned above. It has cured a large number of cases of serious sickness, which were considered incurable and were given up by efficient doctors. It has cured many of the so called incurable diseases like cancer, chronic arthritis, eczema, high blood pressure, poliomyelitis, prostate enlargement, rheumatism, sleeplessness, etc., as stated briefly in the cases given in Chapters 13 and 14. Relieving severe toothache in one or two sittings with magnets for 10-15 minutes is a common feature of magnetotherapy.

The treatment, through the application of magnets, is so simple that it can be given or taken at any time, at any place and at any part of the body. It can be taken by every person without any consideration of age or sex.

Very Quick Relief in Some Cases

This treatment proves so effective and its effect is so quick and lasting that sometimes only one sitting with magnets is sufficient and a second sitting is not needed, as often happens in the case of recent pains—especially in toothache, sprains, etc.

One does not have to make any preparation to give or take this treatment as it is done only by touching the magnets for some time.

The treatment has to be taken only once a day—generally for 10 minutes.

The magnets can be kept at home and can be taken to the shop, factory or office where one may be working. The treatment can be taken during long journeys too.

No water or tea or milk or anything else of the sort is required for this treatment as no medicine is to be taken internally under this system of treatment.

The same magnets can be used by so many patients, each day, without washing, cleaning or disinfecting them. The same magnets can be used for all complaints, if the size, shape, design and power of the magnets are suitable for the parts of the body where they are to be applied and for the diseases to be treated.

Once a pair of magnets is obtained, there is no recurring expenditure. Hence this treatment saves a lot of expenditure on medical bills.

It also saves one a lot of trouble and time otherwise spent in going to hospitals, dispensaries and to private doctors, standing there in long queues and waiting for hours.

The cures effected by magnetic treatment are long lasting as this system works by scientifically correcting the various natural systems functioning in the body.

This treatment is not habit-forming. If the user of magnets does not use them for some days, he does not feel anything wanting or any urge for using them.

Magnets Keep Their Users Fresh, Energetic and Youthful

The magnets keep their users, including ladies and children, fresh, energetic and youthful ; and these qualities go a long way to enable them to maintain and improve their health and to look handsome and beautiful all the year round.

A magnet may be applied to any part of the body and its effect will reach everywhere in the body through the circulatory system ; of course it will be immediate and a little more at the part of body where the magnet is applied.

Every disease is associated with some kind of pain. A magnet has special property of alleviating and removing pain from any cause and helps the human organism to return to normalcy. Hence treatment with magnets has a wide field of action in all diseases and can correct all the functional disorders of the body by removing pain and providing soothing effect in every ailment.

The treatment with magnets does not cause any shock or aggravation as is sometimes observed in some other systems of treatment.

The permanent magnets, which are the tools of the treatment, retain their power for a very long time, namely, for several years. If they lose their power in due course of time, they can be recharged to regain their lost magnetism. Thus the magnets never get too old so as to be discarded and thrown away as unserviceable at any time.

Precautionary and Prophylactic Use of Magnets

The treatment with magnets can be taken by healthy persons also, daily or occasionally, as a precautionary measure. They would feel tranquil and will not feel fatigued at the end of the day.

The treatment with magnets can be taken as a prophylactic measure against many infectious diseases like measles, chicken

pox, influenza, etc. Magnetised water is an additional help in the treatment of every disease. If magnetised water is taken every four hours during an epidemic, it can save the user from contracting any such disease ; and in case the infection has already been caught, the duration and severity of the disease will be surprisingly reduced. Magnetised water can be easily prepared in every house, with a single magnet only, as suggested in the previous chapter on 'Magnetised Water'.

Side-Effects

Dr Bhattacharya of Naihati, West Bengal, has written in his book 'Magnet and Magnetic Fields', on the basis of a report on Biomagnetism from the Delaware Laboratories Limited, Oxford, England, that there were no noticeable side-effects of the experiments carried out by them. They were, however, able to elicit the following few probable ones through careful questioning :

- (i) Tiredness after initial treatment, but not thereafter.
- (ii) Diuresis immediately following treatment, but not sustained.
- (iii) Healthier bowel action in those subjects who sometimes suffered from sluggishness.
- (iv) More rapid healing of small cuts and abrasions and rapid reduction of inflammation.
- (v) A beneficial effect in some young subjects with acne.
- (iv) Some female subjects reported a loss of weight during magnetic treatment and a reduction in adipose tissue (fat cells) about the thighs.

It will be observed that only the first side-effect could be considered slightly harmful but that temporary effect was also felt only after the initial treatment, not thereafter. All the other side-effects were beneficial.

While considering the side-effects, it may be reiterated that Dr Maclean of New York noticed that one interesting side-effect of repeated exposure of magnetism on human beings was the restoration of pigmentation in the hair of many of his patients from a silvery white to its former natural colour.

Magnetic Treatment Beneficial for People of All Humours and Characteristics

The following statement of the great physician, Paracelsus, regarding the therapeutic uses of the magnet, taken from the available extracts out of his works, is worth quoting here :

“There are qualities in a magnet, and one of these qualities is that the magnet also attracts *all martial humours* that are in the human system.

Martial diseases are such as are caused by auras coming and expanding from a centre outwards, and at the same time holding on to their centres ; in other words, such as originate from a certain place and extend their influence without leaving the place from which they originate.

In such cases, the magnet should be laid upon the centre, and then it will attract the diseased aura towards the centre, and circumscribe and localise the disease until the latter may be reabsorbed into its centre and, thereby, we may destroy the herd of the virus and cure the patient and we need not wait idly to see what Nature will do.

The magnet, therefore, is very useful in all inflammations, in fluxes and ulcerations, in diseases of the bowels and uterus, in internal as well as external diseases.”

‘All martial humours’ mean all the liquid or semi-liquid substances of the body which contain iron in any proportion as explained below :

Martial=(L. mars-mart-iron) Pertaining to or containing iron.
Syn. Ferruginous.

Humours=(L. fluid) 1. Any fluid or semi-fluid substance in the body.

2. Cardinal humours—Four chief fluids of the body—namely, blood, phlegm, choler (choleratica-bile) and melancholy (black bile)

3. The four juices or fluids recognised in ancient medicine (blood, phlegm, bile and black bile), of which the body was thought to be composed.

Hence the statement of Paracelsus shows that a magnet attracts all the liquid and semi-liquid substances containing even a little quantity of iron and not only blood.

A mixture of the four liquids determines complexions, dispositions, temperaments and physical and mental qualities. The predominance of one of them produces a man who is sanguine, phlegmatic or melancholic and each of them has specific characteristics.

The ancient Unani physicians had formed a theory which explained health and disease on humoral basis. The special features of that theory are also the same four humors, namely, blood (*khoon*), phlegm (*balgham*), yellow bile (*saфра*) and black bile (*sauda*). This humoralism still holds its position with Unani physicians in India. They believe that when the humours are in proper proportion in respect of their force and quantity, a person enjoys perfect health, but when one or more of them is diminished or increased, the person becomes sick. The characteristics of these four Unani humours are given on pages 112—13.

The statement of Paracelsus, therefore, implies that the treatment with magnets has influence on all the humours and on all the persons having any of the above characteristics and thus covers great majority of mankind.

<i>Humour</i>	<i>Colour and taste</i>	<i>Nature</i>	<i>Type and personality</i>	<i>Functions</i>
Blood (<i>Khoon</i>)	Red, sweetish	Hot and wet (<i>Damwi mizaj</i>)	Sanguine or plethoric type. Complexion red. Good appetite. Active, tense, obese and robust. Urine reddish.	Provides nutrition to the human body, promotes growth in adolescence, helps in generation of innate heat by supplying fuel to the body.
Phlegm (<i>Balgham</i>)	Whitish, can transform into blood.	Cold and wet (<i>Balghami mizaj</i>)	Phlegmatic type. Drowsy, dull, hair thin, white pasty skin, obese, activities and movements sluggish. Urine colourless; lack of thirst.	Subserves nutrition to organs like cerebrum, lubricates joints, keeps tissues and organs moist for smooth movement and avoids dryness.
Yellow bile (<i>Safra</i>)	Bright red (like saffron) Bitter, Light & pungent	Hot and dry (<i>Safrawi mizaj</i>)	Choleric or bilious type. Body hairy and lean, complexion sallow. Gets angry quickly, proud and revengeful, energetic; intelligent.	Enables blood to nourish those organs which need bilious humour (lungs, etc.) Attenuates blood so as to reach the smallest channels

Humour	Colour and taste	Nature	Type and personality	Functions
Black bile (Sauda)	Dark brown sediment of blood	Cold and dry (Saudawi mizaj)	lignant and shrewd. Sensation of pins and pricks in body. Urine fiery and yellow.	Cleanses food residues and phlegmatic humours off the walls of bowels and stimulates intestines. Aids digestion and kills parasites by its bitter taste.
			Melancholic type. Dark, thin, with narrow blood vessels, loss of sleep. Urine black or reddish black.	Nourishes some organs (bones) and bestows density and consistency on blood. While travelling to stomach, tickles its mouth and creates a sense of hunger, arousing appetite.

It is a well-known fact that the breath is inhaled cold but exhaled hot, as it passes through hot places. Also, the breath is dry when inhaled and moist when exhaled. If there is loss of heat (hypothermia) or excess of moisture in any person, the constant touch of magnets for some time regulates both as it generates heat in the body.

A pair of magnets has, therefore, multifold benefits. Even if the magnet had only one good quality, it was worth being preserved in every house. But it has so many qualities. In fact, it is a doctor-cum-medicine in itself. It, therefore, becomes imperative that every family must have a pair of magnets and should know how to use it, at least in common ailments of daily occurrence.

India is a poor country and a large number of its people have no money to purchase food or even medicine if they fall sick. Magnetotherapy can very well come to their help in the case of illness at a very little or no cost. Philanthropists can start free 'Magnetotherapy Centres' for free treatment of the poor and needy persons, with a few magnets only, without incurring any recurring expenditure on medicines.



Experiences of Indian Magnetotherapists

A large number of difficult cases has already been cured by the magnetotherapists in India. Some cases successfully treated through this system are briefly given in the following pages.

Some Peculiar Cases Treated by Dr R. S. Thacker of Delhi.

1. *Eczema*—Shri K.C. Gupta (about 52), a high official of the Government of India, New Delhi, was once looking after some flower plants in his bungalow. He got a prick of a thorn on the back of his palm. A few days later, a pimple arose at the point of the prick and took a turn into weeping eczema. The eczema spread to the whole of his body and discharge began to ooze out of every limb. The doctors of the Government dispensaries, including Skin Specialists, tried to cure his eczema but nobody could even relieve him. The disease made his life miserable and no system of treatment seemed to help him. He was then advised to try Magnetotherapy. He approached Dr Thacker and started taking his treatment. He was treated by methods I and V alternatively with strong magnets for 10 minutes once daily in the morning. His wounds began to dry up in 3-4 days and he was cured of his horrible, eczematic disease in about three weeks, without any medicine.

(It was this wonderful cure that created a desire in the author to learn this system of treatment.)

2. *Burns*—Dr Thacker's sister-in-law, wife of a Sessions Judge at Simla, got very severe burns on the right side of her breast. She had suppurated wounds and could not sleep on

account of pain in the wounds. The best allopathic treatment available at Simla could not cure her. Dr Thacker went to Simla, with some strong magnets, and treated her there. He applied two magnets to her hands for two sittings of 15 minutes each. She felt the action of the magnets on her body but there was no relief to her wounds. Dr Thacker then hanged a magnet from the roof of her room, made her sit on a wooden chair and asked her to hold the magnet in close contact with the wounds, twice daily, for 15 minutes each time. After a few days' treatment, the wounds dried up and she was relieved of her serious painful trouble. The magnet was hanged from the roof so that the patient might not feel the weight of the magnet on the wounds.

3. *Chorea (Parkinsonism)*—Shri Brindaban Sharma (about 60) had chorea in his hands. His hands used to suffer from involuntary motions for 8-10 years. He was given treatment under method I, once daily in morning. He was cured of his chronic disease in about a month's time.

4. *Diabetes*—(i) Shri Sharma of the Excise Deptt. (about 45) was suffering from diabetes. He approached Dr Thacker for Magnetotherapy and was treated by method No. I. During the course of the treatment, he had to go to Kashmir. He took two magnets from Dr Thacker and used them there. When he came back after about 2 months, he said that his diabetes had been cured and he returned the magnets.

(ii) Shri Sharma's father (70-75 years old) was also suffering from diabetes. He also took magnetic treatment, by method No. I, and got well in about two months.

5. *Fits After Injury*.—A girl of 20-21 years was getting fits and sometimes became unconscious, since the age of 5-6 years, when she had a fall from the roof of a house. She was given magnetic treatment by method I. In two months' period her fits became very few, say once a week instead of once every day and in another two-three months she was quite free from her fits and occasional unconsciousness.

6. *Height Increased*—(i) Miss R.K. (13 years) was under magnetic treatment for increasing height from 1.4-68. After two months, her father Shri M. L. Kumar wrote on 3-6-68 from Sion (East) Bombay to Dr Thacker that he was glad to intimate that his daughter had improved by 1.5 cm during the period of two months and he hoped that her height would increase further as she was continuing the magnetic treatment.

(ii) Master A. K. (16 years), student of Higher Secondary School, Daryaganj, Delhi, started treatment in December 1966 and continued it for 6 months. During this period his height was increased by 6 cm from 1.35 m to 1.41 m.

In both the cases, two magnets, encased in round steel cases of about 6 cm diameter, were used. One day North Pole was applied on the forehead and South Pole on the occiput. Next day, north pole a little above the right ear and south pole a little above the left ear, on the sides of the head. This application on alternate days continued through the treatment period in order to regulate and stimulate the function of the pituitary gland.

7. *Hernia*—A lady (about 40) was suffering from umbilical hernia. Allopathic Doctors advised operation but she was afraid of it and wanted to avoid it. She, therefore, took magnetic treatment. Four powerful magnets were applied simultaneously. Two were applied to her feet under method No. V, a third magnet (North pole) to her abdomen over the navel and the fourth magnet (South pole) to her back. She was cured of her disease in about three months' period, without any medicine or operation.

8. *Hiccup (Hiccough)*—An elderly lady brought her newly-married daughter-in-law to Dr Thacker for treatment. The girl was suffering from occasional hiccough for many years. The elderly lady said that if she knew about the girl's disease, she would not have married her son with her. Dr Thacker assured both of them that the girl would be cured of her disease. He applied North pole of a strong magnet to the upper part of her navel and South pole of another magnet, just

opposite to it, on the back, once daily in the morning. The girl was cured of her disease in about a week's time.

9. *A Hopeless Case*—Mistri Zia-uddin used to work in Dr Thacker's workshop of silverware. Zia-uddin's mother was seriously ill; all hopes of her survival had been given up and relatives gathered to witness her end and to do the needful thereafter. Zia-uddin told everything to Dr Thacker and took him to his house. Two magnets were applied to her by method II. She passed a large stool with very bad intolerable, stinking smell and felt better immediately thereafter. After some time, she went to her native place at Moradabad instead of going to graveyard in Delhi.

10. *Injury in Legs*.—Shri C.R. (55), employed at Kashmiri Gate met with an accident in front of his shop and got injured. He was given indigenous medicines and was later placed under allopathic treatment but was not cured thereby. He had pain in his legs all the time. He came limping to Dr Thacker's clinic. He was treated with magnets (method V). He started feeling the effect of the magnets after about 30 minutes and continued the treatment upto 90 minutes. He felt so much relief by this treatment that he went back walking almost like a normal man. He, however, continued the treatment for some time more.

11. *Another Injury*.—Dr Thacker's younger brother (about 40) once fell down from the front seat of a tonga and got hurt in his right leg badly. There was no fracture but it became very difficult for him to walk about. He, however, managed to reach his brother's clinic somehow. Dr Thacker first applied a pair of magnets of medium strength to his feet for 45 minutes. After 15 minutes, he applied two strong magnets, which could lift more than 20 kg of iron-weight, on the spots of injury, for about one hour. The pain and swelling subsided very soon and no medicine was required to be given to him.

12. *Menses Absent*—A girl of 21 years had no menses at all. She was treated by Dr Thacker by placing two strong round encased magnets, both having South Pole, in her hands,

The treatment continued for 20-25 days. The girl had her first menses and her menses were quite regular thereafter. He advises that in such cases both magnets should have the same pole in the centre, preferably South pole.

13. *Mental Retardation*—A child (12 years) of a person working in All India Radio, New Delhi, was mentally retarded. A C type magnet was applied to his forehead for 5 minutes daily and magnetised water was given for drinking. The treatment continued for 3 months and the boy became quite normal in this period.

14. *Mental Sickness*—Sardar B.S. (27 years) could not do any mental work. He preferred to remain silent, talked rarely and became unconscious sometimes. He took magnetic treatment for about 6 months and drank magnetised water during the whole treatment. He became not only normal but overactive and is now running his business successfully.

15. *Obesity*—(i) The betrothal of a young girl was delayed on account of her obesity. She took magnetic treatment. She lost her weight by about 4 kg in about 2 months and her marriage was settled.

(ii) A milk-vendor of Ballimaran, Delhi (about 55 years) had almost double the weight of a normal male of his age. He felt difficulty in doing his work and in walking. He took magnetic treatment. Two strong magnets were applied to his hands, another two to his soles and a fifth one on the lowest part of his spine—all five simultaneously. Treatment was started from 10 minutes and the time was increased by 5 minutes every day upto 45 minutes per sitting. He lost much weight and became active in one month. He purchased two strong magnets and applied them at home for about 4 months. In this period, he shed off so much of his weight that some people could not recognise him sometimes.

16. *Pain in Arm*—Dr Thacker once got severe pain in the upper part of his right arm. He applied south pole of a strong magnet on the place of pain. The pain drifted to a lower point

near the elbow. He applied the magnet on the paining portion near the elbow. The pain drifted further lower to his wrist. He moved the magnet to his wrist. The pain went up to the upper arm again. He followed the pain with the magnet there also. Then the pain left him completely. All this happened in one day only and the pain did not recur thereafter.

17. *Pain in back*—A boy (about 10) was suffering from severe pain in his spine below the neck for about two weeks and was crying almost all the time. The boy was brought to Dr Thacker for treatment. The South pole of a magnet was applied to the paining spot for 15 minutes. The pain moved to another place. The magnet was also shifted to the new pain spot. In about half an hour, the pain vanished and the boy began to smile. The child went back from the clinic walking and smiling while he was brought in his father's lap in crying mood.

18. *Paralysis*—A girl of about 4 years, daughter of a milk vendor of Katra Mashroo, was suffering from paralysis. She was brought in lap by his father. Treatment was given to her by methods I and V, 10 minutes daily, along with magnetised water. The disease had afflicted her for about 8-10 days only. She recovered fully from her disease in about a month's time.

19 *Pulmonary Tuberculosis*—Smt. D. S. (40) of Chhipi-wara, Delhi, was suffering from tuberculosis of lungs. She was so weak that she could not sit on a bench without support. The usual symptoms of cough, fever, phlegm, etc., were there. Doctors had declared her a hopeless case. She was given treatment by method I for 10 minutes, along with magnetised water three to four times a day. As she could not attend Dr Thacker's clinic every day, her son used to take magnets home and apply them there. In about two months, she became alright and her appetite increased. She later got checked up by the T.B. Clinic and they declared that no trace of T.B. was left in her body.

20. *Unable to move*—Smt S. D. (70) attended a Devi Jagran, throughout one night, at the second storey of a house. At the time of Arti in early morning, her feet became numb and she could neither walk nor stand. Her sons brought her down as she could not stand on her legs. She was brought to Dr Thacker. He applied strong magnets to her feet (method V). After the application of the magnets for about 90 minutes, she was able not only to stand on her legs but also to walk without any support. She did not get any trouble later and no further treatment was required.

Dr R.S. Thacker also rendered free humanitarian service towards treatment of the jawans hospitalised in the Military Hospital, Delhi Cantt., through Magnetotherapy, during a period of 6 months during 1971-72, just after the last war with Pakistan. He effected very appreciable cures in the hospital and became popular among the inmates there.

Cases Treated by Late Dr B. Bhattacharya of Naihati West-Bengal

1. A gentleman (45) suffering from chronic and painful arthritis of both the knee joints for nearly 10 years could not squat for dinner nor could he sit in the water closet. Two magnets were tied to the two knee caps and the patient was asked to sleep with the magnets on. This made him fit in a month's time. All handicaps disappeared completely and he was able to resume normal work.
2. A lady (20) came to him with a painful swelling on the arm just above the wrist. It was 5 cm in length and about one cm high, troubling her for several weeks. A magnet was bandaged on the swollen part. On the third day, when the bandage was removed, the swelling was gone.

Cases Treated by Dr A.K. Bhattacharya, D.M.S. s/o Late Dr B. Bhattacharya

3. *Backache*—A severe backache prevented Dr Bhattacharya's wife from attending to her domestic chores. The

Homoeopathic medicine Rhus Tox gave her no relief. Six magnets placed over her back, spread over the whole area of pain, relieved her in 30 minutes.

4. *Brain Palsy*—A child suffering from brain palsy since 10th month of his birth was brought to him at the age of two years. The child had frequent attacks of convulsions at night and did not laugh or play for a few months. His father was directed by Dr Bhattacharya to apply South Pole to child's forehead for 15 minutes daily. A month's treatment fully controlled the convulsions.
5. *Chronic Orchitis*—A boy of 20 years suffered from chronic enlargement of his 'testes'. South pole of a powerful magnet placed on the testes for 20 minutes, twice daily, morning and evening, for a fortnight restored them to normalcy.
6. *Flatulence*—Severe pain in the abdomen due to flatulence was cured in a few minutes by applying the South pole of a magnet to the navel.
7. *Mental Derangement*—A boy of 15 diagnosed to be suffering from 'temporary insanity' was getting worse every day and neuro-surgeons' treatment with modern medicines did not help. Application of a magnet daily for 10 minutes on the forehead, between the eye-brows, before retiring, was prescribed. The boy recovered fully and resumed his attendance at school in three weeks.
8. *Pain in Knee*—A gentleman had pain in one of his knees consequent on a fall. He could not move about with ease nor could he sit down or get up without feeling pain. South pole was applied for 20 minutes. His pain disappeared and he could move his knees and legs freely.
9. *Prostate Enlargement*—A teacher suffered from enlargement of prostate and his urination was painful. A fortnight's application of south pole of a magnet for 20

minutes, morning and evening, cured him. His prostate gland became normal and urination became easy.

10. *Toothache*—A lady (45) suffering from severe toothache was advised extraction by the dental surgeon. The south pole of a magnet was applied to the side of her cheek for 30 minutes. The pain vanished in the first sitting, but tenderness remained, which was also removed in next two sittings with the magnet.

Cases Treated by Shri D.N. Ramchandran of Madras

1. *Boils*—A boy of 12 years had two big boils on his left thigh. The pain was severe and he was unable to walk. The north pole of a powerful cylindrical magnet was applied for 20 minutes to both the boils. The boy felt lessening of pain, so the flush was continued for 15 minutes more. The flush completely dulled the pain. A magnet was taped to the boils. The next day the boils shrank. The magnet was taped again and in five days there was no sign of boils.
2. *Pain in Buttocks*—A lady of 26 years was suffering from shooting pain in her buttocks. She was unable to move or bend forward or backward. After $2\frac{1}{2}$ months of ineffective Allopathic treatment, she came under magnetic treatment. South pole magnetic flux was given to the paining spot for 10 minutes daily in the morning and evening for one week. The pain disappeared and she was able to bend forward and backward.
3. *Pain in Hand*—A lady of 76 years had occasional pain in the whole of her left hand for 20 years. She was given South pole magnetic flux for 20 minutes both morning and evening. The pain disappeared in 20 days and did not recur.
4. *Pain From Injury*—Two brothers had a slip from a wooden ladder. One received a cut below the ankle of the right leg and the other a hit on the spine opposite to

the navel. The foot was swollen and the cut was slightly bleeding. A horse-shoe magnet was taped to the swollen ankle and another magnet was taped to the back of the other brother at night. This enabled them to sleep during the night without pain. The swelling disappeared, the cut healed and the pain was removed during night and both the brothers were well the next day.

5. *Poliomyelitis*—A boy of 19 years was suffering from this affliction from the age of 3 years. He took magnetic treatment for 4-5 months. In this period he became much better alround. He would not slip down while walking as before ; his hands and legs gained strength ; he could lift his hands above his head, with a good swing ; his gait improved and he could walk furlongs ; he could also lift the weight of one kilo with each hand.
6. *Rheumatic Pain*. A retired railway officer (60) complained of rheumatic pain in his right arm from the shoulder blade up to the fingers. A horse-shoe magnet was taped to the upper muscle of the arm. From fourth day, this pain greatly reduced but his fingers began to shake while writing. The magnet was taped to the upper part of the fingers before retiring to bed daily. In a week's time, his hands and fingers had remarkable improvement and he had no relapse thereafter.
7. *Incessant Crying*. A child of 6 months suddenly began crying hoarse, kicking his legs and would not stop. He was uncontrollable for 5 minutes. Suspecting stomach-ache, South pole of a cylindrical magnet was applied to his abdomen. In two minutes, the child was relieved of his ailment and began to sleep.

Dr H.T. Bolakani of Bombay has given many cases of cure of different diseases through magnets in his book "Secrets of Magnet Therapy". Brief particulars about some of the cases are given below :

Cases Treated by FLT. LT. Dr B.K. Sonpar, MBBS, IAF, (Retd) Poona.

1. Mrs P (62) was diabetic and was suffering from osteo-arthritis for 10 years. Blood sugar 250 mg P.P. After treatment with magnets for about 6 months, the dose of diabinese was cut down to half and blood sugar dropped to 190 mg. She could walk freely and her general condition became satisfactory.
2. Mrs N.P. (65) obese and diabetic and had insomnia. Put on Mohna Therapy magnet for 5 months with very good response. Anti-diabetic drugs were reduced and she was able to sleep without any hypnotics.
3. Mr S.M. (72) had a fall in bathroom and sustained fracture of the right femur. He was operated upon in a hospital and could walk only with the help of a stick. He had pain and stiffness of leg. He took treatment of magnet therapy and his pain and stiffness almost disappeared in three months.
4. Mr T.M. (46) had pain in neck, tingling and numbness in his right arm and fingers. Remained under treatment at Medical college hospital for 3 months. Thereafter he took magnet treatment. In a period of two months all the drugs were stopped, neck collar was abandoned and tingling and numbness of fingers was gone.

Cases Treated by Dr G. I. Bhatia, MD., FC, P.S., DGO, DFP, Bombay

1. Mrs S.T. (36) chronic hypertension. B.P. remaining 210/170. B.P. came down to 120/90 during magnet treatment of about 2 months. Treatment followed for 6 months more when B.P. remained 118 to 130/85 to 92 mm.
2. Mrs B.P. (32) hypertension following delivery 5 years back. BP 180-200/110-130, with severe headache and

dizziness. Magnetotherapy started on 28.6.70 and continued upto 5.10.70. BP remained 110-118/74-82 during treatment and never went above 122/94 thereafter.

3. Mrs A.S. (34) Rheumatoid arthritis and stiff joints. Magnet therapy continued from 18.6.70 to 10.8.70. Stiffness became much less and she could move her joints.
4. Mrs P.R. (60). Chronic hypertension. B.P. 160-200/110-140 mm. Anti-hypertensive drugs produced weakness and giddiness. Magnet treatment continued for 3 months. BP came down to 130/90.
5. Mrs S.M. (30). Case of Rheumatoid arthritis with peptic ulcer, had stiffness of elbow joints and wrist joints. Magnet therapy started on 20.7.70 and continued for three months. Result satisfactory and patient happy without any anti-rheumatoid drugs.
6. Mrs B.C. (65) Chronic hypertension. Taking hypotensive drugs for two years, yet BP remained 170/110 mm. Giddiness and stiffness of nose with high doses of anti-hypertensive drugs. Magnet treatment started on 22.7.70. BP remained 160/90 without drugs.

Colonel M.R. Rao, Ex-Superintendent of Mahatma Gandhi Hospital, Bombay, used the Mohna Therapy magnet on himself for 'Arthritis' and was benefitted by it.

Dr B.P. Varandani M.A. MBBS. M.C. C.P. (U.S.A.) used Mohna Therapy Magnet in 10 hypertensive patients and 15 patients suffering from palpitation of functional origin. In all these cases the response was good. The drinking of magnetised water enhanced the response. He also used the magnet on weak patients, not responding to the usual line of treatment and he was surprised to find that it worked well in all these cases.

Some Cases Treated by the Author

1. *Ankylosing Spondylitis*—Shri V. B., a youngman of Yamuna Nagar (Distt Ambala), aged about 28 years, had been suffering from pain and stiffness in his neck, back and legs for 8 years. His disease was diagnosed as Ankylosing Spondylitis. He was told by the physicians of the modern system of medicine that it was going to be his "life-companion" and could not be cured. He was given some pain-killing drugs but they did not relieve his pains. He read about Magnetic treatment in the newspapers and came to Delhi for this treatment. He was given treatment for 15 minutes in the morning and for 15 minutes in the evening with strong encased magnets. In less than two weeks, he was relieved of his pains and stiffness to a considerable extent and only traces were left. He got a pair of magnets prepared for further use at home and went back highly satisfied.
2. *Appendicitis*—Kumari U. M. (40 years) had pain in the region of her appendix. The south pole of a strong encased magnet was applied to the painful part for 10—15 minutes daily for a few days and the pain subsided gradually. It was completely removed in about 4—5 days.
3. *Boils*—Shri R., a teacher (45 years), got recurring boils in his buttocks for six months. He got them operated twice but in vain. Even after the operations, more boils cropped up, causing pain and obstruction in his sitting in a chair or riding a bicycle. He was given magnetic treatment in his soles. Some boils burst while some others subsided and he was completely cured of his extremely painful disease in 3 months.
4. *Cervical Spondylitis*—Shri S. K. (45 years), a Govt. official, had been suffering from this disease for two years. He had pain in the left side of the cervical region of his spine, in the left shoulder and in the left

arm. He could not lift or move his left arm freely. He had taken the best available Allopathic treatment, physiotherapy and traction treatment, without permanent relief. He took magnetic treatment for about a month and got rid of his ailment. He is perfectly alright now.

- 5 *Eczema*—Shri P.S.K., a Supreme Court Advocate (48 years), had eczema on his feet and loins for the past 35-36 years. Originally his eczema was weeping but it became dry for some years. There was itching, burning, unevenness and blackishness of skin when he started magnetic treatment. He was given this treatment in his soles for about $1\frac{1}{2}$ months. Itching and burning have completely gone from all the diseased parts and the skin of his feet has become smooth and less blackish. His progress has been extremely satisfactory.
6. *Goitre*—A young girl, Km. B. B. (20 years), had goitre for about one year. She took magnetic treatment for about 4 months regularly. Two strong magnets were applied to her hands and two other crescent type ceramic magnets were applied to the swollen thyroid gland, each pair for about 10 minutes daily. The hardness of the swelling was removed and the size of the goitre was considerably reduced. She had to discontinue the treatment on account of her marriage.
7. *Hernia*—A male child of about $1\frac{1}{2}$ years was suffering from hernia of left side. Sometimes the intestines used to protrude out of the level of abdomen, when the child felt some inconvenience and at some other times it went back to its normal position. The South pole of the crescent type ceramic magnet was applied locally on the place of hernia for 5 to 10 minutes in the morning. After about one month, there was no protrusion and, therefore, no inconvenience to the child.



Treatment for cervical spondylitis
Courtesy, Times of India

8. *Injury*—Dr M.T.S. (35 years) met with an accident while boarding a bus and severely sprained his left foot. He was unable to walk due to unbearable pain and swelling. The South pole of a strong encased magnet was applied for about 20 minutes. After two such applications, he was greatly relieved of his pain and swelling and was able to move about almost normally.
9. *Insomnia (Due to Injury)*—Shri P. D. (60 years) met with a serious accident and the whole of his right leg was plastered in a Hospital. He had much pain and could not sleep at night. A magnet was applied to his forehead at about 10 P.M. for about 20 minutes daily for some days. He started getting sleep and could sleep well after a few days.
10. *Lachrymation from one eye*—Smt. P. D. (40 years) had lachrymation from her right eye only, for two years, without any apparent cause. A strong encased magnet was applied to her right palm and a small round magnet was applied to her watering eye. She continued this treatment for about $1\frac{1}{2}$ months and the watering of her eye stopped completely.
11. *Menses Improved*—Smt. J. K. (40 years) used to come for treatment of her backache, which was troubling her for years. She was given treatment with 2 strong encased magnets in her soles every evening. After about 15 days she reported that she not only felt better in respect of her backache but also got better and satisfactory menses after the magnet treatment.
12. *Obesity*—Two cases of obesity of unmarried girls are as under :
 - (i) Km. S. M. 20 years—Height 1.5 m. weight 65 kg took magnetic treatment for 20 days and lost her weight by half kg. She could not continue the treatment as she had to go out of station

- (ii) Km. A. S., 16 years—Height 1.65 m, weight 70 kg took magnetic treatment for one month and lost weight by $\frac{1}{2}$ kg. She also could not continue treatment as her college opened and she shifted to a distant place.

In both the cases, treatment was given by applying one set of strong magnets to hands and another set of magnets to feet simultaneously.

13. *Orchitis*—A boy of 6 years was suffering from inflammation of right testis with scrotal enlargement for a few years. The scrotum had unusual shine and abnormal crimson colour and was hanging down about 2.5 cm longer than the left one. Doctors had advised operation but his parents wanted to avoid it. The South pole of a crescent type magnet was applied to the enlarged scrotum daily for 15 minutes for about 6 months. The size of the scrotum was reduced by about three-fourths and normal skin colour was restored.
14. *Pain in Arm*—A girl of about 10 years was brought by her mother for treatment of severe intolerable pain in her left arm. The South pole of a strong encased magnet was applied to the paining part and the pain was completely relieved by this local treatment in about 15 minutes.
15. *Pain in Finger*—Late Dr T.N.G., Homoeopath, (65 years) had pain in the first finger of his right hand, without any apparent cause. The South pole of a bar magnet was applied to his finger 3-4 times daily for 10 minutes each time. The pain vanished in 2-3 days.
16. *Pain in Hand*—A young lady of 24-25 years suddenly got unbearable pain between her right thumb and first finger. She held her right hand in her left hand when she came and could not hang it down. Her face showed much agony and she was in tears. The afflict-



Application of Magnet against headache



Application of Magnet against Bachache

ed portion was kept in between two magnets—North and South poles. She was completely cured of the intolerable pain in 15 minutes and went back smiling.

17. *Pain in Jaw*—Smt. T. (55 years) had severe pain and stiffness around her right jaw-bone for several years. The pain extended to her right ear and upto head. She was unable to open her mouth properly and felt great difficulty in eating. The condition had come about after extracton of three teeth and she was treated by many eminent doctors without beneficial results. The South pole of a bar magnet was applied at the site of the pain for 15 minutes daily and a strong encased magnet was applied once a week. After about 1½ months of this treatment, she was completely relieved of all her trouble.
18. *Pain in Knee*—Pt. S. N. Sharma (78 years) had a fall in a drain and was suffering from pain in his right knee for three months. The South pole of a small round cylindrical magnet was tied to his knee for half an hour daily for 3 days. His pain decreased gradually and vanished completely on the 4th day.
19. *Psoriasis*—Km. V. K. (24 years) was suffering from Psoriasis for the past 16 years. She got this disease at the age of 8 years after an injection for seasonal boils. She had patches of raw skin of the diameter of about one cm all over her body (except face). Sometimes scales formed and peeled off. All kinds of treatment had been tried but in vain. She took magnetic treatment for about one month. Most of the small patches disappeared and the size of the others greatly shrunk, although she was not able to take this treatment regularly.
20. *Rheumatism*—Smt. K. M. (62 years) had rheumatic pain in both her knees and could hardly walk. Two strong magnets were applied to her feet for 15 minutes daily. After a treatment of about 2 months, she was cured of her pain, stiffness and lameness.

21. *Severe Toothache*—Smt. V. (33 years) had pain in her teeth for 6 years. One evening the pain became unbearable and she decided to get 5-6 teeth extracted next morning. Her husband brought her for some medicine so that she could sleep for some hours during that night. Crescent type ceramic magnets were applied to her jaw from outside. She was advised to continue magnet treatment and to postpone extraction for 3 days. She agreed and took magnet treatment for 15 minutes every evening. In 3 days, she got so well that she abandoned the idea of extraction of her teeth. She continued the magnet treatment for about a month after which there was no pain in her teeth at all.
22. *Stiffness of Neck*—Km. P. A. (15 years) felt pain and stiffness in her neck one morning. She went to school as usual. When she returned, the pain was severe and was gradually increasing. It became unbearable in the evening and she could not move her neck. She was in tears when she came for treatment. The South pole of a magnet was applied to her neck for half an hour. The pain and stiffness were relieved to a great extent. She was completely cured of her pain and stiffness in the second sitting next morning.
23. *Swelling in Knee*—Shri T. C. J. (56 years) had swelling and pain in his knee for 3-4 months. A round cylindrical magnet was tied to his knee at night and it remained on his knee throughout the night. The swelling and pain both left his knee after about a fortnight.
24. *Tonsils*—The crescent type ceramic magnets are beneficial for removing irritation, pain and swelling of tonsils and mumps. They are also useful in cough arising from throat, as well as in reducing the swellings of glands around neck. A number of cases of tonsilitis



Application of Magnets against Tonsillitis



Application against toothache
Courtesy, Times of India

have been cured by this treatment without surgical interference.

25. *Toothache*—There are several tens of cases in which toothache has been relieved or completely removed in only one or two sittings. The magnets were applied on the cheeks from outside in all those cases. The pains and swellings were wondrously reduced.

The foregoing cases are only representative of the hundreds of cases of different diseases treated successfully with magnets. Some cases required surgery accordingly to the modern system of medicine but surgical operations were avoided by magnet treatment and the patients were saved from the pains of knife interference.

Magnetotherapy has given most satisfactory results to the author in the treatment of eczema, spondylitis and toothache.



Clinical Reports From Foreign Countries

In the last century, Helmholtz (1821—1894), the most distinguished scientist and Professor of Philosophy, of Germany, aptly remarked "The disgrace of the nineteenth Century is its ignorance of the subject of Magnetism ; will the twentieth bring knowledge ?"

It seems that the people of twentieth century have taken the challenge seriously and have made satisfactory efforts to fulfil the expectation of Helmholtz.

The required progress has been made in many advanced countries of the world, including India, and all of them have made great progress in this field.

We are concerned here only with that part of magnetism which is applied to relieve and cure the ailments of the suffering humanity. In this particular branch also, appreciable progress has been made in countries like Japan, USA, USSR etc.

Reports from some Companies of Japan

A small but progressive country like Japan has promoted several companies which develop, manufacture and offer for sale several magnetic products for treatment of human ailments.

There is a company named 'Kawasaki Electric Industry Co. Ltd.' of Japan, manufacturing electromagnetic therapeutic apparatuses. Their special product is an Electromagnetic

Magnetizer. This is a sort of an easy chair fitted with 6 electromagnets. One has to sit in the chair comfortably upto half-an-hour daily for some days, for getting relief from most of the common diseases.

A similar electromagnetic healing machine has been developed in India also by Dr Satram Das of Saraswati Clinic, Pawai Chowk, Ulhasnagar-3, Bombay, with certain further improvements.

There is another company named 'Nakatamasihki Medical Industry Co. Ltd.' at Tokyo, Japan, who make Magnetic Body Belts. The belts contain 16 Ferrite magnets built in it and relieve waist pain and muscular pain, etc.

Another company named 'The Aimante Trading Company' of Tokyo, Japan, is manufacturing several magnetic products for treatment of different diseases of human beings. Their main products are Magnetic Health Bands and Magnetic Necklaces. The health bands have achieved remarkable success in the cure of 'Stiffness of Shoulders' and 'High Blood Pressure'. The magnetic necklaces have been especially designed to decorate ladies while keeping them fresh, youthful and healthy. They also make 'Magnetic Bedpads' for removing constipation, fatigue and stiffness. These 'Bedpads' are said to be particularly beneficial for ladies for preserving lasting health and vigour. The company has managed to get many experiments about their Magnetic Health Bands carried out by different agencies including some hospitals. Some information about these experiments is given below.

An abstract of Biomagnetic Symposium held in Japan shows that the Japanese Scientists and Doctors have carried out many laboratory experiments and have found that the relationship between magnetism and living bodies is of great interest and importance. Consequently, they have introduced magnetic treatment in hospitals utilising permanent magnets.

A report of the Tabata National Railway Hospital, Japan, has shown that the Magnetic Bands were used on patients

visiting the hospitals at Chiha, Omiya, Shinjyoku, Tabata in Japan and considerable effects on stiff shoulders and high blood pressure as the chief complaints of these patients have been confirmed. In most of the cases treated with Magnetic Bands, the complaints of stiff shoulders were relieved in periods ranging from 3 to 15 days and the high blood pressure from 7 to 90 days.

The abstract of the symposium shows that experiments were made with 42 patients suffering from stiffness of shoulders with or without other diseases. The report claims that the bands were found effective in 41 cases out of 42 and that many patients began getting better within a week. The health bands were also tried on patients of high blood pressure. Thirtyfour cases of various kinds of high blood pressure (simple, essential and pernicious) with or without other diseases, were tried with bands. Out of the 34 cases, the bands proved effective in 20 cases, non-effective in 8 cases and 6 cases remained undecided. In most of the cases in which the bands proved effective, the benefit was noted within a week or two and the blood pressure came down by about 20 mm in this period.

Reports from the United States of America

The United States of America have also made much progress in the field of application of magnetism for the benefit of the living beings. A number of doctors, institutes and laboratories have done appreciable work in conducting researches in this field. The names of some such doctors and institutions are given below, with the results obtained by them quoted in brief :

1. Dr Albert Roy Davis, the Director of Albert Roy Research Laboratory, U.S.A., has confirmed that he has arrested all forms of cancers, reduced tumors and controlled infections with the help of Biomagnetics. He writes that as a result of his researches with animals, he has added to the years of normal life of the animals.

2. Dr Howard D. Stangle of New York believes magnetism to be a true science. He writes that it is all along an admitted line that the magnet has hidden powers and that something of it has become known and been made use of from time to time. He observes that magnetism is among the truest things in life on earth and this view seems to have been shared by most eminent men of science—not merely of the West, but around the globe. He suggests that it is a subject that should excite universal interest.
3. Dr K. E. Maclean of New York city has been using strong magnetic fields in the treatment of advanced cases of cancer and the results are reported to be remarkable.
4. Dr M. F. Barnothy of the University of Illinois, U.S.A. and Dr J. M. Barnothy of Biomagnetic Research Foundation, Evanston, Illinois, have found that bacteria change their positions relative to the magnetic field. Dr M. F. Barnothy hopes that magnetic fields will in due time develop into a powerful new analytic and therapeutic tool of medicine.
5. Dr Robert O. Becker, Professor of Orthopaedic Surgery, State University of New York, states that there would appear to be little doubt that some interaction exists between the function of the Central Nervous System and external magnetic fields.

Some cases treated by Doctors in America are given below :

Cases Treated by Dr Howard H. Stangle of New York

- (i) *Heart Condition.* A man in late fifties suffered periodical attacks of violent nature seemingly pointing to 'heart condition'. His heart, however, seemed sound and it was thought that he might have got incipient cancer. He was advised to wear the North pole of a

magnet next to his bare skin of the hip at a sore spot. The patient said that relief was felt within 2 hours of his wearing the magnet. He wore the magnet for several hours daily for several months. The heart condition disappeared, pain lessened, digestion corrected itself and there was no need to avoid stairs.

- (ii) *Prostate Gland Enlargement.* A man in his late sixties suffered from an enlarged prostate gland. During the flare-ups, the pain was intense, business activities were suspended and there was little rest and sleep. Surgery was advised, but the man declined. He, however, agreed to wear a magnet. He wore one for several months. He did not get the old condition nor lost a day in business on account of his illness.

Experiences of Dr Albert Roy Davis, Head of Department of Science, Florida, America

1. One day Dr Davis found that his right foot and leg were not as tired nor did they ache as did his left foot and leg. He found that this was the result of his standing on his legs and feet next to a 1500-gauss magnet for about two hours, during an experiment on mice.
2. So he undertook to strap a small magnet on his lower legs next to his feet. "No more tired legs or feet". A lesser force field acted to give his legs and feet just proper stimulation.
3. He noticed that if after an accident or some damages to his person, he placed a magnet on the affected part, all pain would leave in 15-30 minutes.
4. Dr Davis once developed a bad painful toothache. He picked up a 300-500 gauss magnet and held it against his face next to the paining tooth. In 15 minutes, the pain lessened. He took a small magnet and placed it inside his mouth, between the inner cheek and the sore tooth. In four hours, there was no pain, nor it returned afterwards.

5. He thought that a belt of small magnets around his waist would place him in a circular magnetic field. He obtained powdered magnetic iron and imbedded those magnetic particles in a plastic strip. The gauss strength was reduced to 12 gauss per cm. He wore it one hour a day and found great improvement in his feelings and his health improved thereby.
6. In an accidental explosion in his laboratory, his face, eyes, hair, ears and cheeks were covered with burning acid. The pain, partial loss of sight, burns, swellings of face and head were all unbearable. He applied a 2000-gauss magnet. In less than one hour, the pain and burning were reduced to about half its intensity. After the second day, there was no pain at all, and in 12 days all signs of acid burns disappeared and no scars were left.

Reports from Russia.

The magnetic power is being used in Russia in different ways.

The magazine 'Soviet Land' No. 20 of October 1970, shows that magnetised water is being used in clinics there. In a Leningrad Clinic, patients suffering from stones in the kidneys and gall bladder drank this water and it helped to wash out the salts and stones from their organism.

The journal 'Soviet Woman' No. 8 of 1973 published a news item that a woman in Turkmania swallowed needle when she was biting off the thread. Dr D. Shukorov tied a small magnet to a thread and got the patient to swallow it. Then he pulled out the magnet with the needle stuck to it.

Reports from Italy.

1. Prof. D. Gigante of the Institute of Rheumatology of Rome University made some clinical researches on the patients

suffering from various kinds of Rheumatism and reported the results in 'Recentia Medica' of April 1966. Some extracts from his report are given below :

"Our observations concern 40 patients with various rheumatoid conditions at different stages. The results effected in the 40 patients show that one can without doubt affirm that the painful symptoms were influenced by the magnetism.

In 25 patients, the pain reduction varied from moderate to total.

At the level of articular and periarticular tissues, in which acute inflammation was present, the beneficial effect was particularly evident.

On the whole, the patients felt more tranquil, became more mobile and increased their resistance to fatigue. During the experiments, no side effects occurred at all and no harmful intolerance or reaction appeared.

In the clinical aspect, the longest wave produced by magnetiser showed the most excellent anti-inflammatory effects, leading to subsidence of pain symptom."

1. Prof. A. Venerando, Commissioner of C.O.N.I., Institute Di Medicina Dello Sport, also carried out some clinical research on the patients suffering from various Traumatisms caused by sport-playing, such as arthritis, arthralgia, pains and musculature and recovery from heavy fatigue. The details of the results have been reported in the *Gazetta Internazionale Di Medicina E Chirurgia* of Rome for May 1966.

The author experimented on 86 cases of acute and chronic articular musculo-tendineal and enthesopathical lesions, seen in athletes, with magnetiser. The action of this therapy resulted in marked reduction of the muscular constructure and of the painful symptoms.

The treatments were carried out with one or two electromagnets, coupled according to the area. The use of pairs was suggested with the object of rendering the penetration of the electromagnetic lines of force better and more intensive. The most favourable result was obtained in the reduction of pain and local swellings.

The use of couples of magnets resorted to in some of the above-mentioned cases in Italy was in accordance with the use of pairs of magnets suggested in the methods of treatment recommended in Chapter 10 of this book.

Reports from Scandinavia

A report prepared by Dr Christine Pickard speaks about several cases treated successfully by magnetotherapy. The cases related to gall stones, heart attacks, heart cramps, high blood pressure, kidney stones and rheumatic pains and many subsidiary symptoms associated therewith. Giving the details of all those cases will amount to repetition of the same course of diseases and treatment. It will suffice to add that in some of the cases reported, the results of the magnetic treatment were very remarkable and appreciable.

Some other countries are also making researches and experiments with magnets, magnetic fields and magnetic apparatuses and their results are bound to be encouraging and a step further for the betterment of the sufferings of the human beings, in due course of time.



Magnet as a Preventive Device

The charter of the World Health Organisation, which works through various Governments, has defined health as "A state of complete physical, mental and social being, and not merely the absence of disease or infirmities".

Good health is the choicest blessing of life and the noblest gift of God. A man cannot fully enjoy happiness if his health is shaken and life becomes a burden in that case. It is, therefore, the natural and sacred duty of every one to make all possible efforts to preserve good health and to prevent health hazards in future life. Mr Harvey W.Wiley has so very truly remarked : "We are carefully to preserve that life, which the Author of nature has given us, for it was no idle gift".

The medical science can give us absence of sickness but it cannot give us good health. Others can provide a bouse for us but they cannot make it a home. Good health, therefore, depends not on services but on self. The self can be protected from so many ills by means of precautions and preventions.

Prevention is Better than Cure

Prevention of disease is infinitely better and cheaper than cure, but positive health is better than either. If with healthy housing, sound nutrition, fresh air, and some kind of natural exercise, we can avoid from the very start the conditions which promote many of the modern diseases, we shall not have to face costly treatment for relief, cure and eradication of diseases.

A first class physician is one who could not only cure diseases but could also prevent them. It will not be a good policy to wait till a person becomes ill. To administer medicines for diseases which have already developed and to suppress revolts which have already sprung up, is comparable to the behaviour of those who begin to dig a well after they have become thirsty. It is for this reason that Governments arrange preventive measures against smallpox, etc.

Very often, people are not actually ill, but they feel a little below that they think should be ideal health. This is the pre-clinical stage of disease and due care should be taken at this time to prevent possible disease. If a person is correctly treated at this stage, not only are the unwell feeling and fatigue, etc., cured, but he is spared the consequences of developing any serious disease.

Parents who are healthy beget healthy children. The children who are born healthy, have less diseases in their later lives and enjoy a healthier mental outlook. If adults who were robust as children, become ill, they are easy to cure, but the diseases of the persons who were born weakling, or who remained ill during the first few years of their lives, are comparatively difficult to cure.

Modern man drinks wine like water, leads an irregular and unnatural life, indulges in sexual excesses and thereby exhausts his vital force. He is wasting his energy excessively and is seeking only physical pleasures. All these actions are against the rules of nature. Hence, people reach only half the age of hundred years stipulated in ancient religious books and begin to degenerate. Keeping one's habits regular and taking some natural exercise is necessary for one to live in health for a long time.

Descartes (1596—1650), a great Astronomer and Philosopher, said, "If there is any possible means of increasing the common wisdom and ability of mankind it must be sought in medicine". Indeed so, as medicine is the "Science of Humanity and Life" Here we are reminded of the views of Dr F. V.

Broussais of France, who said, "If magnetism is true, medicine would be an absurdity". And it has been proved, beyond doubt, by a large number of scientists, through so many experiments all over the world, that magnetism is a true science. According to these great personalities, therefore, all benefits in the matter of health and wisdom should be derived from the use of magnetism..

Use of Magnet as a Preventive Device

Let us now discuss the use of magnet as a preventive device. It is seen that when some danger to existence is impending, man, by instinct, either runs away from it or raises barriers to bar its approach. But man cannot run away from a disease creeping in his own physical self. He can only create internal and external safeguards against the impending illness. Safeguards of both types aim at increasing resistance in the body. The resistance can be created through two means :

- (a) by cleansing the body of any undesirable accumulations, removing obstacles and regularising the working of the human machinery ; and
- (b) by providing new vigour and stimulation to the energies in the body.

Magnet is capable of doing the wonderful job of accomplishing both the above objectives. Thus magnet proves a strong safeguard against illness and serves as a highly beneficial preventive device.

In homoeopathic system of treatment, curative remedies are given for preventive purposes also. Similarly, the use of magnet is equally rewarding in both the ways. This is so because magnetotherapy works on the principle of accelerating the innate (not the superficial) resistance and dynamism in the body.

Magnetotherapy rejects the practice of injecting foreign agents or elements into the body to do fighting with the

disease. Hence preventive or precautionary application of magnet is essentially beneficial and devoid of any harmful effects.

It can be safely said that regular application of magnets of advised power is capable of substituting the morning and evening exercises in at least the physical domain. Psychological and natural benefits accruing from exercises cannot and should not, of course, be ignored, especially by the youth, but the use of magnet could be an additional aid to the healthy and the most valuable assistance for persons of advancing and advanced age. Hence healthy persons are advised regular or frequent use of magnets for preserving and improving upon their existing state of health—especially those who cannot spare time for any other exercise or walking.

We have seen, in Chapter 8, how magnets work on the human body. The magnet works in various ways but the main action is through the blood circulatory system. If our blood is kept clean from deposits and impurities, we shall be saved from a large number of ailments which may otherwise afflict us. And this object can be achieved by the use of magnets. Their use proves curative in the case of sick persons, restorative in the case of convalescents and preventive in the case of healthy persons.

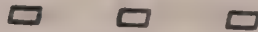
The magnetism of the human body needs to be regularly strengthened by external feeding if proper health is to be maintained. All the constituents and internal systems of our body naturally respond to the magnetic emanations and invariably show positive results. Magnetic flux invigorates and accelerates the self-curative and self-healing agents in the body. Through its action on blood, nerves, cells and hormones, it dynamically adds to the physical, mental and consequently psychological energies of man, fights out exhaustion and sickness, and prolongs life. Therefore, application of magnet is bound to contribute towards preservation of health and activity and prevention of impending diseases.

Application of Magnet—Curative as well as Preventive

The application of magnets has its penetrating effect on all the systems working in the human body. Hence it is beneficial for all the ailments and functional defects appearing in the body. And for whatever ailments it can prove useful as curative, it can also prove advantageous as preventive.

In view of the manifold beneficial effects of the magnetic treatment, curative as well as preventive, let us act according to the advice of Dr R. S. Thacker, a great magnetotherapist of Delhi, in the following verse :

Take two magnets, different pole,
Touch them daily, make a goal.



Magnetotherapy and Homoeopathy

Magnetotherapy is closely allied to Homoeopathy and has its backing.

The founder and Master of Homoeopathy, Dr Samuel Hahnemann, in his book "Organon of Medicine" has pointed out the aims which every physician should keep in mind. He has stated as follows :

Section I "The physician's high and only mission is to restore the sick to health, to cure as it is termed."

Section II. "The highest ideal of cure is rapid, gentle and permanent restoration of the health or removal and annihilation of the diseases in its whole extent, in the shortest, most reliable and most harmless way, on easily comprehensible principles."

It was with this idea in Hahnemann's mind that besides Homoeopathy, he sought for the truth in the effect of and the relief through other methods of treatment prevalent in his time. He studied all the systems prevailing then and has given his opinion about them in the new sections 286 to 293 of the sixth edition of the Organon of Medicine.

Dr Hahnemann has stated in the new section 286 *ibid* that the dynamic force of mineral magnets, electricity and galvanizing act no less powerfully than the Homoeopathic medicines. In section 288 he has observed that animal magnetism (or mes-

merism) is a marvellous priceless gift of God to mankind and in Section 289 he has mentioned about the positive and negative mesmerism as well as about the positive and negative 'Passes'. In section 290, he has spoken about the utility of massages and in Section 291 about the benefit of water and bath as remedial agents.

Hahnemann and Mesmer were Contemporaries

Dr Samuel Hahnemann (1755—1843) and the pioneer of magnetism and mesmerism, F. A. Mesmer (1734—1815) were contemporaries. Hence Hahnemann knew many magical cures performed by Mesmer by his magnetic or mesmeric treatment and was naturally influenced by these cures. Hahnemann, therefore, made experiments with magnets for a long time. When he was fully convinced about the beneficial effects of magnets, he wrote strongly in favour of their use. An extract of the new Section 287 of the sixth edition of the Organon is given below :

Section 287 : "The powers of the magnet for healing purposes can be employed with more certainty according to the positive effects detailed in the *Materia Medica Pura* under North and South Pole of a powerful magnetic bar. Though both poles are alike powerful, they nevertheless oppose each other in the manner of their respective action. The doses may be modified by the length of time of contact with one or the other pole, according as the symptoms of either north or South pole are indicated. As antidote to a too violent action, the application of a plate of polished zinc will suffice."

Dr Hahnemann, in his great work "*Materia Medica Pura*, Volume II", has devoted 54 pages to the treatment through magnets and through the medicines prepared from the magnet. He has given detailed information about magnets including the method of their preparation and has devoted 48 pages to des-

cribing the symptoms covered by the medicines prepared from the three different properties of the magnet.

Observations of Dr. Hahnemann about use of Magnets

Dr Hahnemann has made, *inter alia*, the following observations regarding magnets and their use :

“A magnetic rod can quickly and permanently cure the most severe disease for which it is suitable medicine*, when it is brought near the body for but a short time, even though covered with some thick material (such as cloth, bladder, glass, etc.†)

Although each of the poles presents something peculiar in its power of altering the human health, yet each of them seems to produce alternating actions which resemble those of the opposite pole.

In order to effect a cure, the magnet must be applied in a much milder manner to enable it to act homoeopathically.

For this purpose, a magnetic rod which can lift a quarter of a pound at either pole is more than sufficiently powerful.

I have met with cases for which the contact of such a magnetic staff for only half a minute was an amply sufficient dose.

If the wrong pole has first been selected, the opposite pole should be applied.

A mild disposition, or a tendency to chilliness in the subject of treatment, directs the practitioner first to the North pole when he can only find the symptoms similar to those of the case in hand, under the general magnet symptoms.

* It may be noted that Dr Hahnemann has called the Magnet “a suitable medicine” here.

† “Paper, rubber, wood” may also be added to the list.

The duration of action of a moderate dose of magnetic power is upwards of 10 days.

When the magnet has been improperly selected, the resulting sufferings, which are sometimes very severe, will be permanently removed by laying the outspread hand on a pretty large zinc plate for half an hour."

Three Magnetic Medicines

Three separate medicines are prepared in Homoeopathy from the three different properties of the magnet, namely, (i) The whole magnet, (ii) The North Pole, and (iii) The South Pole.

The medicine prepared from the whole magnet, named *Magnetis Poli Ambo*, covers 397 symptoms; the medicine prepared from the North Pole, called *Magnetis Polus Arcticus*, covers 459 symptoms; and the medicine prepared from the South pole, called *Magnetis Polus Australis*, covers 387 symptoms. Thus all the three medicines prepared from the magnet cover 1243 symptoms. Fifty symptoms out of them are printed in bold type in the *Materia Medica Pura* and are, therefore, important symptoms for the use of these magnetic remedies.

Hahnemann has stated that the symptoms occurred from various powerful magnets brought in contact with various sensitive individuals without distinction of the poles. They were observed in experiments conducted for half a year for the purpose of ascertaining the proper and most efficacious mode of stroking the steel with magnets, in which a horse-shoe magnet capable of lifting twelve pounds was held in the hands, which were in contact with both poles for an hour at a time.

Dr Allen Writes a Great Deal about These Three Medicines.

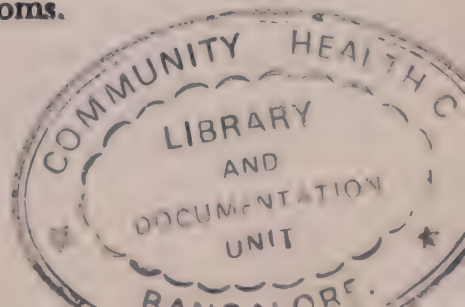
Dr H.C. Allen, M.D., a great and renowned homoeopath, has written much about the magnet and the magnetic medicines in his *Materia Medica* of the Nosodes (with provings of the

X-Ray). He has devoted 48 pages to the description of the magnet, giving the original remarks of Dr Hahnemann, and to the description of the three magnetic medicines.

Most of the symptoms described in Dr Hahnemann's *Materia Medica Pura* have been noted in Allen's *Materia Medica of Nosodes*. More important of Hahnemann's symptoms have been side-lined in Allen's book with double lines and less important symptoms have been side-lined with one line. Ordinary symptoms have been printed without any side-lining.

Almost all the more important and less important symptoms included and side-lined in Allen's *Materia Medica* mentioned above have also been given in his "Key Notes and Characteristics with comparisons of some of the Leading Remedies" without side-lining any symptom. The 'Key Notes' also give other symptoms not side-lined in the *Materia Medica*. As the Key Notes contain much less number of symptoms than those given in Dr Hahnemann's *Materia Medica* or Allen's *Materia Medica of Nosodes*, it can be safely assumed that all the symptoms printed in the Key Notes are selected symptoms and are, therefore, important and dependable ones. Mention of the three magnetic medicines is also found at two places in the Boericke's *Pocket Manual of Homoeopathic Materia Medica* as well as in other *Materia Medicas*. Thus it is clear that the treatment of diseases through magnets and magnetic medicines has been up-held and recommended by the masters of Homoeopathy.

It is not possible to give all the 1243 symptoms indicated in Hahnemann's *Materia Medica Pura*, Volume II, in this book, for obvious reasons. The most important fifty symptoms printed in bold type in that book are, however, given here for the information of the physicians and others who wish to use the magnetic medicines for relieving these symptoms.



Important symptoms of the medicine prepared from the whole magnet, named **Magnetis Poli Ambo**, printed in bold letters in the *Materia Medica Pura*, Volume II :

<i>Page of mm</i>	<i>Sl. No. of Symptom</i>	<i>Symptoms</i>
(1)	(2)	(3)
66	30	Sweat on the face, without heat, in morning.
69	94	Hunger especially in the morning.
70	123	Very loud rattling and rumbling in the abdomen.
70	141	After the stool, violent haemorrhoidal pain in the anus, sore as from a wound and a constrictive sensation more in the rectum than anus.
71	145	Haemorrhoidal flux.
71	156	Nocturnal pollution.
71	160	Absence of sexual desire.
71	162	The prepuce is retracted behind the glans penis and does not cover it at all, or only to a very small extent.
72	175	At night and at other times, a violent but short fit of dry cough, after which there comes a slight expectoration of ordinary tracheal mucus.

1	2	3
72	178	Mucus in the trachea, which is easily expelled by short cough in the evening and morning.
73	203	Pain in the sacral articulation in the morning in bed, when lying on the side, and by day during prolonged stooping forward.
74	229	Drawing from the head to the tips of the fingers.
79	345	Waking up at about 3 A.M. after some hours of dreamful slumber, then without thirst sensation of heat in the limbs, which he first wishes to have uncovered, afterwards carefully covered up.
79	348	In the morning, he lies asleep on his back, one open hand lies under his occiput, the other over his stomach, with the knees spread out, with snoring during inspiration, with half open mouth and low-talking in sleep ; he dreams amorous subjects and seminal emissions (though none occurs) after working headache in the occiput, as after a pollution, tightness of chest and bruised pain of all the joints, which goes off after

1	2	3
		rising and moving the body, while a large quantity of catarrhal mucus is thrown up.
81	378	While at his work during the day, he talks aloud to himself, without knowing it (immediately).
81	392	Very much disposed to get angry and indulgent, and when he does get angry, he has headache of a sore description (immediately).
81	394	Irascibility.

**Symptoms of the Medicine prepared from North Pole
(Magnetis Polus Arcticus)**

84	47	Stitches in the eyelids.
84	54	Twitching and drawing in the eyelids.
85	56	Drawing in the eyelids and lachrymation.
85	60	Itching in the eyelids.
85	62	In the morning on awakening in bed, painful dry feeling of the eyelids.
85	70	Coldness of the weak eye, as if a lump of ice lay in the

1	2	3
		orbit instead of the eye ; when the coldness went off, a prolonged needle prick in the eye.
85	73	Restless motion of the eye.
88	149	Frequent eructation of nothing but air.
88	165	Gurgling in the abdomen, as if much flatulence were incarcerated, which causes also a twisting about that mounts up into the scrobiculus cordis and occasions eructations.
89	183	Hard, large – sized, rare stool, passed with difficulty.
90	193	Dark urine.
90	203	Nocturnal pollution.
90	210	The catemania, which were expected, came on in 20 hours, increased in 24 hours beyond their usual quantity—(they had hitherto been too scanty)—and became healthy in amount, without any more accessory symptoms (consequently curative action).
91	240	Itching in the region of heart.
95	344	Trembling in the parts touching the magnet.

1	2	3
95	347	Cold sensation on the place of application.
96	365	Great drowsiness ; he must yawn.
96	386	About 2 A.M., half waking, with much inner consciousness, great wealth of thoughts and lively memory; he thinks of an important subject in the best form in a foreign language with which he was not very conversant ; almost as if in a zoo, magnetic sleep-talking state, but when fully awake he cannot remember distinctly the subject of his thoughts.
97	391	At night collection of saliva in the mouth, so profuse that each time he wakes, the pillow is quite wet.
97	402	Chill, shivering.
97	407	Cold sweat on the hands and soles of feet.
99	438	Anxious, dejected, faint-hearted, inconsolable, disposition that caused him to make self-reproaches.
99	442	Anxious scrupulosity.

1	2	3
99	453	Hasty-hurried.

**Symptoms of the medicine prepared from South Pole
(Magnetis Polus Australis)**

101	38	Watery eyes occasionally.
101	41	A painful sore dryness of the eyelids, felt especially when moving them, chiefly in the evening and morning.
101	48	Defect of vision, objects appear dim, then also double.
103	85	Burning in the gullet.
107	207	In the arms, quick painful twitching downwards.
108	249	An aching tearing in the patellae.
109	273	Shooting in the soles.
111	320	Dreams of incendiary fires.
112	365	Warmth all over, especially in the back.

It will be better, if while administering the magnetic medicines for relieving the symptoms noted under them, the whole magnet or the particular pole of the magnet, as the case may be, is also applied to the affected part of the body, with a view to getting quicker relief.

Magnetotherapy and Acupuncture or Acupressure

Hitherto, we have dealt with the local and general application of magnets against various diseases. While the local treatment has been suggested for alleviating the localised pain and stiffness in a particular spot, the general treatment has been directed against the diseases in the whole organism,

The author fully appreciates the efficiency of the above-mentioned methods, yet, in an era of growing science and technology, one cannot close one's eyes to more accurate methods of application, provided they are fully proven and promise a better cure.

This concept led the author to study and find out the possibility of utilization of various acupuncture points in magnetotherapy for treatment of various internal ailments.

Acupuncture is Ancient Chinese Art of Healing, which has since been adopted by Japan and by some Western countries like the United States of America and England. India also is taking to it now and several physicians have started practising it in this country.

Acu means needle and puncture means pricking. Hence Acupuncture means treatment of patients through the art of pricking or piercing needles on some special points on the body of the patients. In the practice of Acupuncture, a fine needle is pierced into the skin of the patient to the depth of a few millimetres and is withdrawn after a few minutes. The most

important thing in the practice of acupuncture is to know which point is to be pierced in a particular disease.

The ancient Chinese made no distinction between arteries, veins, nerves, tendons or meridians. They were concerned with a system of forces in the body, which enable a man to move, to breathe, to think, etc. The main concept of Chinese was life energy called *Qi* (pronounced chee). The man's possession of life and all its activities are believed by them to be completely dependent upon this *Qi*. In Hindu terminology, the nearest equivalent to *Qi* is *Prana*; in Theosophy and Anthroposophy, it is called Ether. The *Qi* is created in human body by breathing and eating.

Acupuncture Points

The Acupuncturists believe that there are tender areas at certain points on the surface of the body in all diseases and these tender areas are the Acupuncture points.

In simple acupuncture diagnosis, the patient is examined from head to toe in order to find out all the tender points and to deduce the internal disease corresponding to them. It has been noticed that a disease of an internal organ produces pain, tenderness, hyperesthesia or hypoesthesia, etc., in some part of the skin. This can be verified experimentally.

There are several systems of treatment through acupuncture. In one system, the tender points are needled while in other forms the acupuncturists prick those points where no pain is felt at all or the points which are often remote from the seat of the disease, and sometimes on the opposite side of the body.

The Indian points of *Chakras* correspond to acupuncture points. The Mahaout prods special places on the body of his elephant, with a sharp stick, to elicit various responses from the animal. Several indigenous medical systems in different parts of the world seem to correspond to a simple form of acupuncture. Some Arabs cauterise part of the ear with a red hot poker for treating Sciatica while some Bantu Healers of South Africa scratch small areas of skin and rub various herbs into them.

In Chinese literature, about one thousand acupuncture points have been described—these may be even more. The thousand or so acupuncture points may be divided into various categories, all points in each category having similar properties.

The Acupuncture points that are near the site of symptoms often have a greater local effect especially in painful conditions. Points that are far away, especially the important points below the knee and elbow, often have a greater systemic effect.

Various Ways of Stimulating the Points

There are various ways of stimulating the points, namely, electrical stimuli, magnetic oscillations, mechanical vibrations, injections, massages, etc., besides puncturing the points with needles. There are also different ways of practising acupuncture. The needles are made of several materials namely silver, alloys, stainless steel and even gold. The Chinese books describe about fifty different ways of inserting needles. The technique involves inserting needles 3 or 9 or 81 times, twisting the needle clockwise or anticlockwise, inserting the needle fast and taking it out slowly, inserting the needle in three stages and pulling it out in one, and in many other ways. The stimulus differs with the thickness of the depth of insertion, the up and down pushing of the needle, bluntness or sharpness of needle, leaving the needle in body for longer times and repeating the treatment at frequent intervals.

For a more serious study of Acupuncture, the reader is referred to a detailed treatise on the subject by Dr Felix Mann.

Certain Clinical Cases.

Dr Mann cites innumerable clinical cases where simple acupuncture techniques helped obviate complicated conditions. One such instance is that of a patient who sprained her wrist and suffered from palpitation. Considering that the tender point on sprained wrist crossed the heart meridian, he treated the point near wrist and cured the lady of her palpitation.

In another case, where a lady patient had painful periods, the needle was applied on the inside of the knee on the liver meridian (as the meridian has an indirect course to reproductive organs).

Similar cases have been reported by the author in this book in his treatment through Magnetotherapy, where the treatment against weakness and heaviness of legs improved the menses of the patients (for detail, please see Chapter 13 under the cases treated by the author).

The Chinese describe the acupuncture points as being quite small—a matter of millimetres—but there are Western acupuncturists who do not subscribe to this view and believe that a stimulus anywhere in the appropriate dermatome will work. Both of them may achieve equal results if the oriental's acupuncture point lies within the area of hypersensitivity of the occidental. This shows that the area around an acupuncture point absorbs the effect of stimulation and the central acupuncture points or the lines of meridians are like the lines of force around a magnet and postulate a magnetic theory.

Some doctors have tried to combine acupuncture with the principle of Western physiology, anatomy and medicine in general.

The idea of combining acupuncture with medicine in general seems to be far-fetched, but the view that the stimulation of the area near or around an acupuncture point will give good results appeals to reason.

As there are more than a thousand acupuncture points in the human body, the points must be quite small and each of them must be fixed in a very small space in the body. It is naturally difficult, therefore, to locate the exact points of acupuncture for piercing the needles. There are also great chances of wrong points being pricked as some of them are very closely placed.

Acupressure

Besides the use of needles, the practice of Acupressure, *i.e.* Acupuncture without needles, is also gaining popularity on account of its simpler approach.

In his interesting and profusely illustrated book on Acupressure, Dr J.V. Cerney of U.S.A. has recommended the use of pressure by one's finger-tips. According to him, different acupuncture points either need stimulation by light, soft and superficial pressure to tone up the tissues involved or they require sedation by deep and slow pressure to sedate nerve supply and relieve pain in the connected organs. No use of needles has been considered necessary by him.

While various meridian lines pass through various points on the organs of the human body, all the twelve important meridians have a place in the hands and feet, as briefly indicated below :

There are three important meridians on the inner side or palm of the hand, namely (i) Lung meridian, (ii) Pericardium meridian (also known as circulatory-sex meridian) and (iii) Heart meridian. There are three other important meridians on the outer side or back of the hand, namely (i) Small Intestine meridian (ii) Triple Warmer meridian and (iii) Large intestine meridian.

All these six meridians have their beginnings in the finger-tips of the hands, which are important Acupuncture points. On the palm side of the hand, the heart meridian starts from the tip of the small finger, the pericardium meridian from the tip of the middle finger and the lung meridian from the tip of the thumb. On the back of the hand, the small intestine meridian starts from the tip of the little finger, the triple warmer meridian from the tip of the ring finger and the large intestine meridian from the tip of the index finger.

In the case of cardiac over-work or distress, it has been recommended that pressure may be applied on the tips of the

small fingers of both hands by pinching and twirling them vigorously. By doing this in an emergency, a heart attack may be alleviated and a life saved very handily.

The bottom of the foot, similarly, shows rich reflex zones and forms an integral part of the entire complex of interconnecting nerves.

There are six meridians on the foot. The bottom of the foot has three—namely (i) Gall bladder meridian (ii) Kidney meridian and (iii) Spleen meridian. There are three other meridians on the back or top of the foot—namely (i) Liver meridian (ii) Stomach meridian and (iii) Bladder meridian. The spleen meridian starts from the big toe and the kidney meridian also has its origin in the foot. All these areas play a role in enjoying good health. The toes contain the “trigger points” for head, neck as well as for ears, eyes, heart, liver, lungs and pancreas the hollow of the foot has important points of abdomen, stomach and kidneys, while the heel accommodates important points for glands and sex organs.

It will be seen from the above that the various meridians passing through the hands and feet have connections with all the important organs of the body. Hence alleviation of pain or restoration of proper functioning of the inner organs can be easily manipulated by the application of magnets to hands and feet, as the effect of the application of magnets to the palms or soles goes to their other side also and influences all the meridians and their connected organs. Thus the correctness of the methods of application of magnets to palms and soles, suggested in Chapter 10 of this book, is verified and proved by the independent system of treatment by Acupressure.

It is interesting to note that there is a great similarity in the approach of acupressure and magnetotherapy as both the systems recommend the outwardly application on different parts of body without any internal medication. The encouraging results achieved in the treatment of various diseases through Magnetotherapy corroborate with the beneficial results obtained by acupressure. The identical gratifying results also impart

a technical verification of the clinical results of the two different systems of treatment.

For detailed understanding of the art of acupressure and for facilitating localised application of magnets on individual acupuncture points, the readers are advised to refer to the detailed treatise on the subject of acupressure.

Suggestion for Utilising Acupuncture points in Magnetotherapy

It is suggested that the physicians who are interested in carrying out treatment by utilising acupuncture points in the body, may try the application of magnets on or near the selected points instead of pricking them with needles or applying pressure on them. It is believed that this change in their practice will give more success to them and less discomfort to their patients, as there is no piercing of needles or pressurising the points in Magnetotherapy.



Terminology

Several technical terms relating to magnetism have been used in this book. An explanation of such terms will help the reader in the proper understanding of the subject matter. Some of the terms have already been explained in the text. The meanings of some others are given below :

Animal Magnetism

Hypnotism or mesmerism

Biomagnetics

The science of processes and functions in living organism induced by the static magnetic fields.

Coercive Force

The capacity or power of a magnetised material to resist demagnetising influences. It is more difficult to demagnetise a material having high coercive power than to demagnetise that having low coercive power.

Electromagnetism

A branch of science which treats of the relation of electricity to magnetism. Also, magnetic action induced by an electric current.

Gauss

The unit of magnetic flux density. (After the name of

J.K.F. Gauss). (Please see the note at the end of this chapter).

Hypnotism

The art or science of inducing a sleep-like state in which the mind responds to the external suggestion of the 'Agent' and can recover forgotten memories.

Keepers

Soft iron pieces connected with the different poles of magnets so that the latter do not lose their magnetism. The soft iron pieces become induced magnets closing the molecular chain so that there are no free poles to get demagnetised in course of time.

Magnet

A body or piece of iron, steel or alloy, to which the properties of attraction and repulsion have been imparted and which possesses the quality of attracting iron particles to itself.

Magnet, Ceramic

A magnet made of any synthetic material like the potter's clay, iron-oxide, etc., or any other product that is first shaped and then hardened by means of heat.

Magnet, Metallic (cast-alloy)

A magnet made of any metal such as iron, steel, etc. or of a mixture of metals called cast-alloy.

Magnetic Field

The space surrounding a magnet over which magnetic force is felt. The space is permeated by magnetic lines of force. The magnetic field is most intense near the poles of the magnet.

Magnetic Flush

A sudden, swift and vigorous flow of magnetic power.

Magnetic Flux

The discharge or flow of magnetic force or the magnetic field intensity.

Magnetic Induction

Magnetisation of a magnetic material when placed in proximity with a magnetic force, without actual contact with the magnet.

Magnetic Lines of Force

Continuous curve-lines in the magnetic field showing the direction of the magnetic force and the value of intensity for every point surrounding a magnet. Externally, the lines join North pole to South pole and internally they pass from South pole to North pole. The lines of force never intersect at any point.

Magnetic Material

Substances or materials such as iron, steel, nickel, cobalt or any alloy, which are appreciably attracted by a magnet and can retain magnetism.

Magnetic Permeability

When a magnetic material is magnetised by induction, the lines of force of the magnetising field get concentrated inside the material. The degree to which the lines of force can penetrate or permeate the material is known as its permeability. In other words, the ratio of flux density to magnetising force.

Magnetisation

The act of rendering anything magnetic or imparting the property of attraction and repulsion to anything.

Magnetised Water

Water permeated with magnetic force by continuous contact with a magnet.

Magnetism

The science which deals with the properties of magnet, namely, attraction and repulsion. The power of a magnet to attract or repel other magnetic material.

Magnometer

The apparatus used for measuring magnetic field intensities.

Magnetotherapy

The science and art of treatment of various diseases through the medium of magnets.

Mesmerism

Animal magnetism. Hypnotism, as expounded by Mesmer—a German physician. Hypnotic suggestions or influence.

Oersted

The unit of magnetic field strength. (Named in honour of Hans Christian Oersted). (Please see the note at the end of this Chapter).

Personal Magnetism

Power of a personality to make itself felt and to exercise its influence on others.

Polarisation

The act of acquiring or giving polarity, or developing new meanings and qualities.

Pole

The extremity of any axis about which forces acting on it are symmetrically disposed. One of the two points in a magnet, cell or battery having opposite physical qualities.

North Pole

The end of the earth's axis in the Arctic region. That pole of a magnet, which when free, points to the earth's north magnetic pole.

South Pole

The end of the earth's axis in Antarctica. The direction in which the South pole of a pivoted magnet will point.

Psychiatry

That branch of medicine which treats of mental and neurotic diseases and the pathologic or psychopathological changes associated with them.

Psychoanalysis

A method of investigation and psychotherapy whereby nervous diseases or mental ailments are traced to forgotten, hidden concepts in the patient's mind and treated by bringing them to light.

Note : The unit of magnetic intensity was formerly known as the "GAUSS", which term is still used by some manufacturers and users of magnets. The unit is, however, called the "Oersted" now, according to the recommendations of the International Conference on Physics held in London in 1934. Some persons use the abbreviation "Oe" for the term "Oersted".

Availability of Magnets

For the benefit of the readers, the addresses of some companies from where cast-alloy and ceramic magnets of different shapes and sizes can be had are noted below :

Cast-Alloy Magnets

M/s Permanent Magnets Ltd.,
Sylvester Building,
20, Shahid Bhagat Singh Road,
Bombay-400023.

Ceramic Magnets

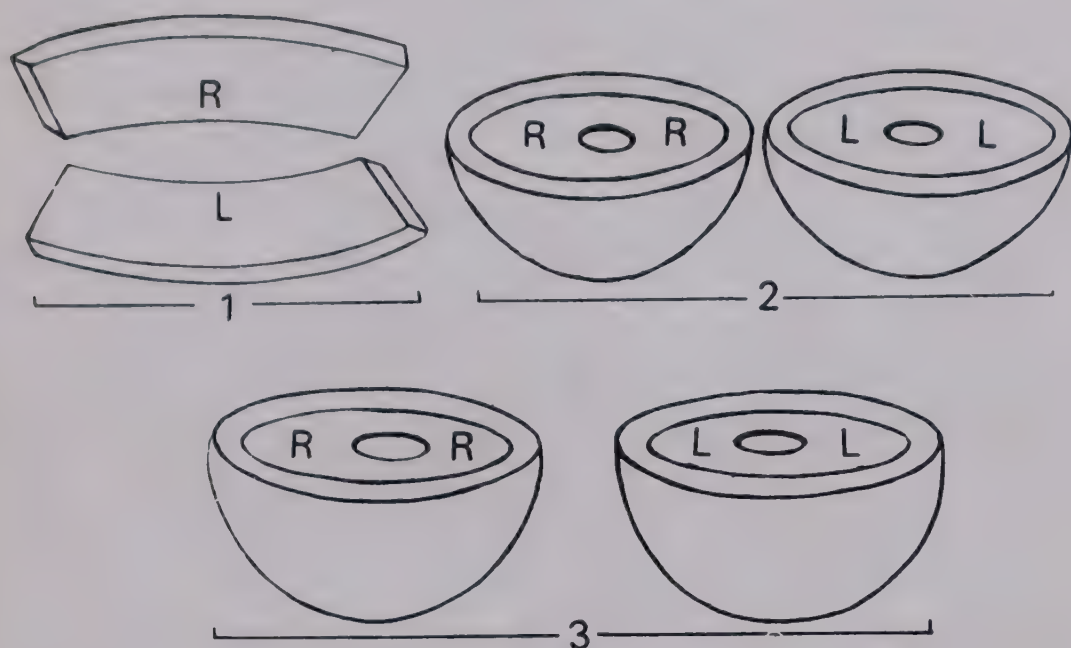
M/s Magnets India,
46, Okhla Industrial Estate,
New Delhi-110020.

Mohna Blood Therapy Magnets

Dr H.T. Bolakani,
Engineer and Homeopath,
Hindustan Water Treatment Industries,
13, Sadminee, 10 Colony Road,
Sion (West) Bombay-400022.

The author can also arrange to supply strong magnets of different power-intensity encased in round metal covers, and ceramic curved magnets of lesser strength, which are most suitable for carrying out magnetic treatment according to the methods suggested in this book, at Swami Homeo Service, S IV—41, R.K. Puram, New Delhi-110022.

**THE FOLLOWING MAGNETS CAN BE SUPPLIED
BY THE AUTHOR**



1. CERAMIC LOW-POWER MAGNETS

(Crescent Type)

For application on curved places.

Length 4.5 cms., Width 3 cms., Height 1.5 cms.

2. CAST-ALLOY MEDIUM-POWER MAGNETS

(Round and Flat)

For Children and weak persons.

Diameter 8.5 cms., Height 4.5 cms., Lifting Capacity 5 Kg

3. CAST-ALLOY STRONG-POWER MAGNETS

(Round and Flat)

For diseases of adults.

Diameter 10 cms., Height 5 cms., Lifting Capacity 10 Kg.

No.	Price of Pair	Beautiful Wooden Box	Packing & Postage	Total
1.	Rs. 25	Rs. 3	Rs. 5	Rs. 33
2.	Rs. 100	Rs. 10	Rs. 15	Rs. 125
3.	Rs. 150	Rs. 12	Rs. 18	Rs. 180

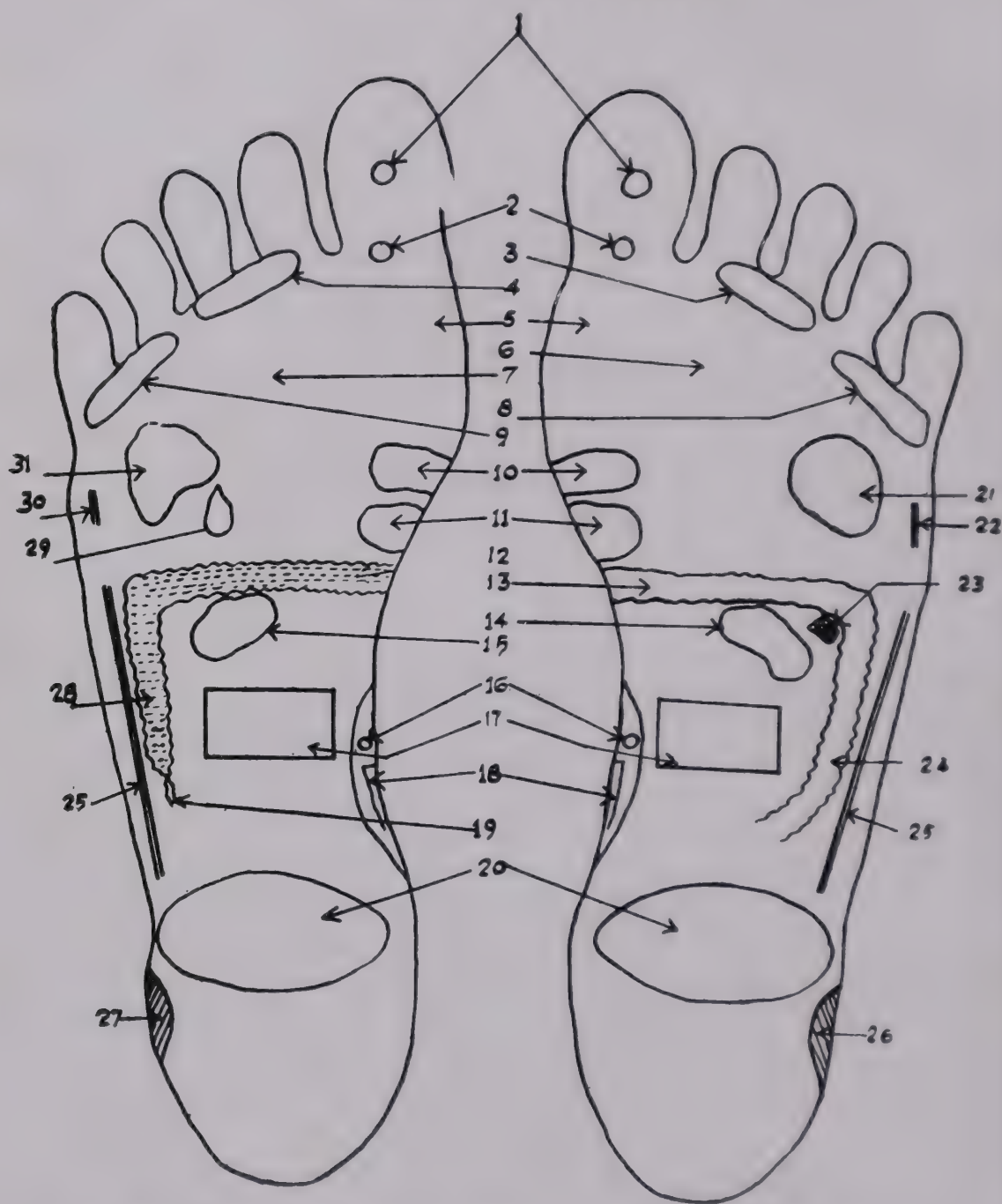
List of References

1. ***Today's Health Guide***
Published by the American Medical Association.
2. ***Physiological basis of Medical Practice***
by C.H. Best and N.B. Taylor, Sixth Edition (1955)
The Williams & Wilkins Company, Baltimore.
3. ***Clinical Unipolar Electrocardiography***
by B.S. Lipman and Edward Massie, Third Edition,
The Year Book Publishers Inc. Chicago, U.S.A.
4. ***The Story of Psychoanalysis***
by Lucy Freeman and Marvin Small, cardinal edition,
Pocket Books, Inc. New York.
5. ***Human Anatomy and Physiology***
by V. Tatarinov, MIR Publications, Moscow (1971).
6. ***Biological Effects of Magnetic Fields***
Edited by Madeleine F. Barnothy, Professor of Physics,
University of Illinois, U.S.A. Volumes I & II,
Plenum Press, New York (1974 Edition).
7. ***Organon of Medicine, Sixth Edition,***
by Dr Samuel Hahnemann, Founder of Homoeopathy
8. ***Materia Medica Pura, Volume II,***
by Dr S. Hahnemann. Published by M. Bhattacharya
& Co. Calcutta (1952 Reprint)
9. ***Materia Medica of Nosodes (with Proving of the X-Ray)***
by Dr H.C. Allen, M.D. Published by Sett Dev & Co.,
Calcutta.

10. *Key Notes and Characteristics with Comparisons of some of the Leading Remedies*
by Dr H.C. Allen. Published by Swaran Publishing House, New Delhi.
11. *Magnet and Magnetic Fields or Healing by Magnets*
by Dr A. R. Davis of America and Dr A. K. Bhattacharya of Naihati, West Bengal. Published by Firma K. L. Mukhopadhyay, Banchharam Akrur Lane, Calcutta.
12. *Secrets of Magnet Therapy—The acknowledged science of Natural Healing and Cure*
by Dr H. T. Bolakani of Bombay (Not a priced publication).
13. *Abstract of Bio-magnetics Symposium in Japan*,
Published by Aimante Mfg. Co. Ltd., Tokyo. Japan.
14. *Clinical Effects of Magnetic Health Bands on the so-called "Stiff shoulders"*
by Tabata National Railway Hospital, Japan.
15. *Magazine "Life" International*, April 1963.
16. *Magazines "Soviet Land"*, No. 20 of October 1970 and
"Soviet Union" No. 8 of 1973.
17. *Magazine "Participant Journal"*, January 1972.
18. *Magazine "Bhavan's Journal"*, Volume XIX No. 17
dated 18-3-73 Published from Bombay.
19. *About Yoga-The Complete Philosophy*
by Harvey Day (1956) Published by Thorsons Publishers Ltd. St. Martins Lane, London.

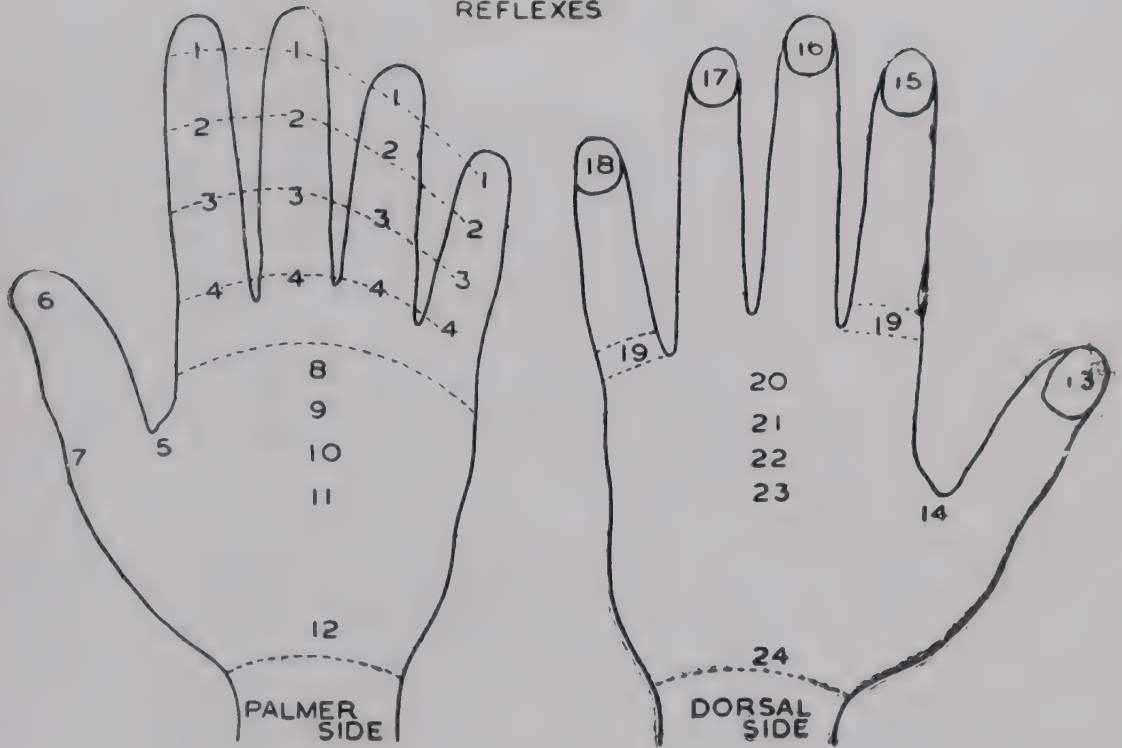
20. *Sant Darshan, Yogic Chamatkar Chapter*
Published by Vishwa Gyan Mandir, Kankhal (Distt. Saharanpur, U.P.).
21. *Holy Bible—New Testament—Gospel according to the St. Methew—* chapters 8 and 9. The Gideons International, Chicago II, Illinois, U.S.A.
22. *Acupuncture*
by Dr Felix Mann, *MB of England, Vintage Books Edition 1973*, Random House, New York.
23. *Acupressure*
by Dr J.V. Cerney of U.S.A. (1975 reprint), Cornerstone Library Publications, New York.
24. *The Science of Medicine and Physiological concepts in recent and Medieval India*, edited by Dr N.H. Keswani, Dean, Professor and Head of Department of Anatomy and History of Medicine, All India Insitute of Medical Sciences, New Delhi (1974). Published by the National Book Trust, Government of India.
25. *Three Thousand Years of Magnets*
by V.P. KARTSEV, *English Translation* by MIR Publishers, MOSCOW (1975)
26. *The Times of India and the Hindustan Times, Daily Newspapers of New Delhi.*

FOOT REFLEXES

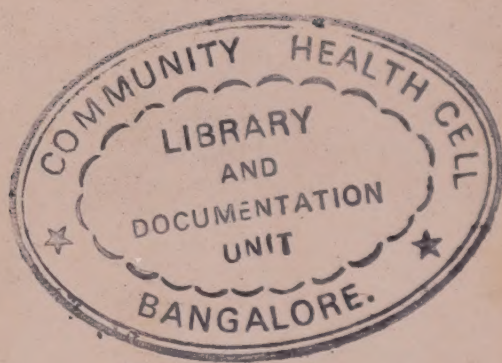


1. Pituitary Gland. 2. Nape of Neck. 3. Left Eye. 4. Right Eye.
5. Thyroid Gland. 6. Left Lung. 7. Right Lung. 8. Left Ear.
9. Right Ear. 10. Pancreas. 11. Stomach. 12. and 13. Transverse Colon.
14. Left Kidney. 15. Right Kidney. 16. Bladder. 17. Small Intestine.
18. Lumbar and Low Back. 19. Appendix. 20. Sex Organs and Gland.
21. Heart. 22. Left Hip. 23. Spleen. 24. Descending Colon.
25. Spinal Nerves. 26. Left Knee. 27. Right Knee.
28. Ascending Colon. 29. Gall Bladder. 30. Right Hip. 31. Liver.

LEFT HAND
REFLEXES



1. Head Region. 2. Face Region 3. Throat Region
4. Neck and Shoulders. 5. Throat. 6. Hand.
7. Thyroid. 8. Chest. 9. Heart. 10. Abdomen.
11. Umbilicus. 12. Pelvis. 13. Incisors and Hand.
14. Throat. 15. Canine and Chest.
16. Bicuspid and Abdomen. 17. Molars and Pelvis.
18. Rectum. 19. Neck. 20. Chest. 21. Heart.
22. Stomach. 23. Kidney. 24. Pelvis and Sacrum.



ABOUT THE AUTHOR



Dr. H. L. Bansal

(Born on 27-7-1908)

Dr. H. L. Bansal has been practising Homoeopathy for about 24 years. He is a successful practitioner and has many wonderful cures to his credit.

Dr. Bansal, after long experience in Homoeopathy, sought for other allied avenues of treatment. He learnt and developed the art of treatment through magnets. In this system also, he has achieved great success-especially in the cases of eczema and spondylitis. His knowledge about magnetotherapy can best be judged from the detailed information given by him in this book.

Dr. Bansal is also interested in Gemtherapy. He is currently writing another book entitled "GEMTHERAPY- The Art of Cure through Gemremedies."

International Opinions about Magnet-Treatment

There are qualities in a magnet and one of these qualities is that the magnet also attracts all martial humours that are in the human system. The magnet therefore is very useful in all inflammations, in fluxes and ulcerations, in diseases of the bowels and uterus, in internal as well as external diseases.

A Great Swiss Alchemist and Physician—P.A. Paracelsus

A magnetic rod can quickly and permanently cure the most severe disease for which it is a suitable medicine when it is brought near the body for but a short time even though covered with some thick material.

A magnetic rod which can lift a quarter of a pound at either pole is more than sufficiently powerful.

I have met with cases for which the contact of such a magnetic staff for only half a minute was a amply sufficient dose.

—*Dr. S. Hahnemann, Founder of Homoeopathy*

It is to the original proving and observations of Hahnemann that we owe these valuable remedies and no better or more logical introduction perhaps can be given than he has furnished in his *Materia Medica Pura*.

—*Dr. H. C. Allen, M.D., A great Homoeopath*

Cancer cannot exist in a strong magnetic field.

Dr. K. E. Maclean, M.D of New York

Magnetism is a true science. Magnetism is among the truest things in life on earth and it is a subject that should excite universal interest.

—*Mr. Howard D. Stangle of New York*

Magnetic field will in due time develop into a powerful new analytic and therapeutic tool of medicine.

—*Dr Madeleine F. Barnothy, Professor of Physics, College of Pharmacy, University of Illinois, USA*